1. The medication associated with an increased incidence of renal insufficiency in patients with either bilateral renal artery stenosis or renal artery stenosis in a solitary kidney is:

   A. hydrochlorothiazide.
   B. doxazosin.
   C. propranolol.
   D. lisinopril.
   E. furosemide.

2. A 45-year-old African-American man has a one year history of progressive irritative voiding symptoms and general malaise. Urinalysis shows 15-20 WBC and 5 RBC/hpf. Urinary cytologies are negative. The serum creatinine is 4.5 mg/dl. Cystoscopy reveals an elongated urethra and inflammatory changes within the bladder. CT scan demonstrates bilateral hydronephrosis and encasement of the bladder, rectum, and both ureters by tissue that has negative Hounsfield units. The next step is:

   A. high dose steroid therapy.
   B. CIC.
   C. ileal conduit.
   D. ureterolysis.
   E. bilateral nephrostomy tubes.

3. A pelvic CT scan in a 34-year-old woman with recurrent UTIs reveals air in the bladder, focal bladder wall thickening, and indentation of the right lateral bladder wall. The most likely diagnosis is:

   A. carcinoma of the sigmoid colon.
   B. Crohn's disease.
   C. carcinoma of the bladder.
   D. diverticulitis.
   E. emphysematous cystitis.

4. A 74-year-old woman has symptomatic stress incontinence and detrusor overactivity, but would like to avoid surgery. The best pharmacologic approach is:

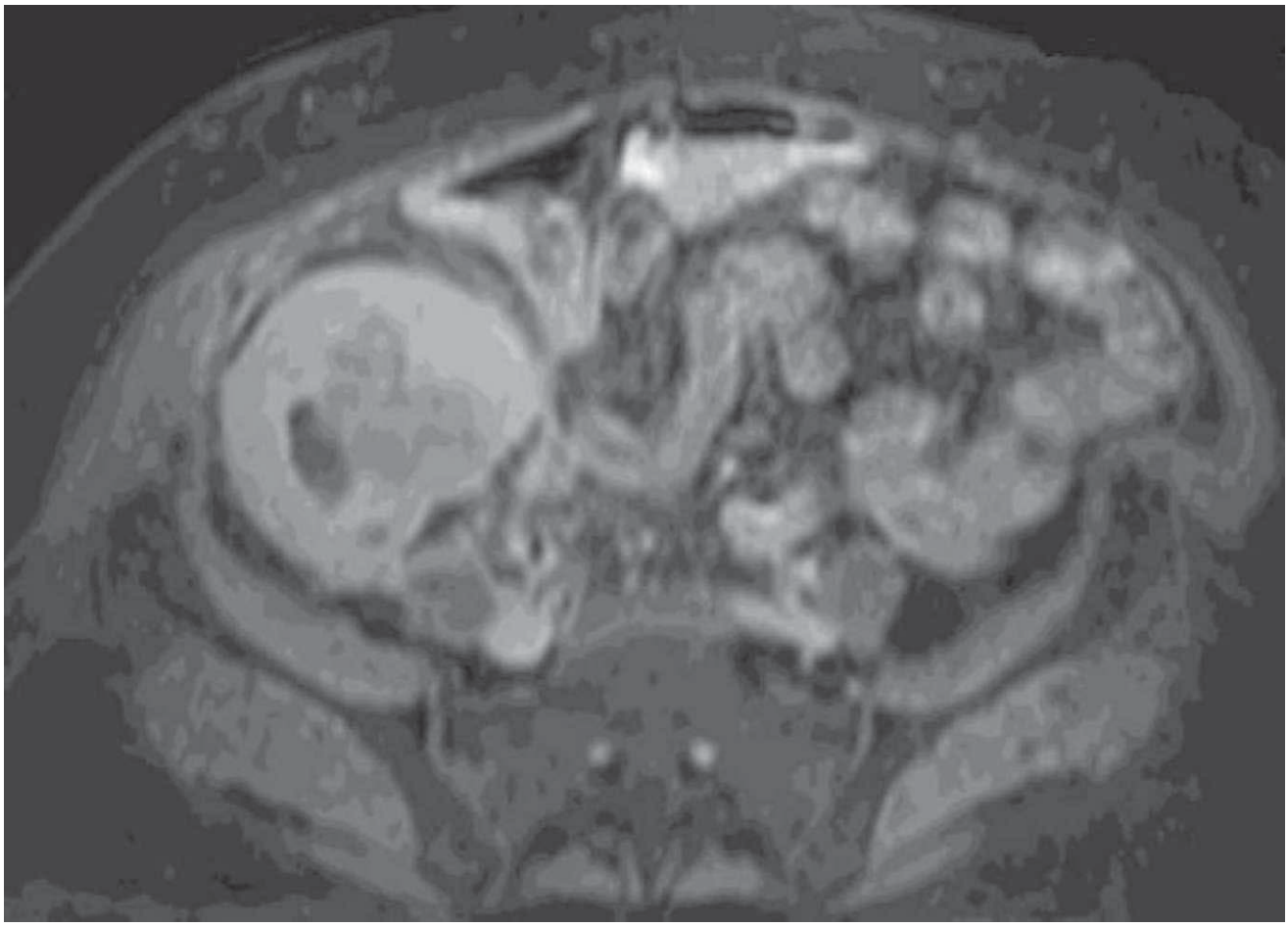
   A. oxybutynin.
   B. bethanechol.
   C. imipramine.
   D. terazosin.
   E. ephedrine.

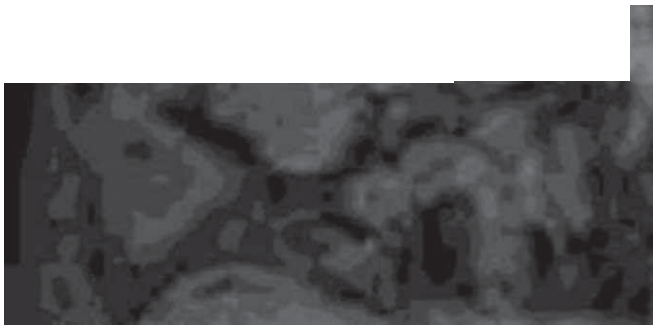
5. The best test to diagnose acute bacterial cystitis is:

   A. nitrite test.
   B. microscopy.
   C. leukocyte esterase test.
   D. streak plate culture.
   E. pour plate culture.

6. A 71-year-old woman develops a mass in the allograft two years after renal transplant. Needle biopsy of the mass reveals a large B cell lymphoma. Representative images from the MRI scan are shown in exhibits 1 and 2. The next step is:

A. reduce immunosuppression.
B. administer chemotherapy.
C. allograft irradiation.
D. subcapsular allograft nephrectomy.
E. radical allograft nephrectomy.





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7. The renal structure best preserved in the presence of obstruction is the:

A. glomerulus.
B. proximal tubule.
C. loop of Henle.
D. distal tubule.
E. collecting duct.

8. The urine marker most specific for interstitial cystitis is:

A. IL-6.
B. glycosaminoglycan.
C. anti-proliferative factor.
D. hyaluronate.
E. histamine.

9. A 57-year-old man undergoes a left radical nephrectomy for renal cell cancer. Postoperatively, he has a prolonged ileus with nausea and vomiting and persistent abdominal pain radiating to the back. There is serous drainage from the wound. Abdominal ultrasound shows a large, left sided retroperitoneal fluid collection. In addition to percutaneous drainage, the next step is:

A. analysis of wound fluid for pH and amylase.
B. analysis of wound fluid for creatinine and BUN.
C. surgical exploration.
D. medium chain triglyceride, low fat diet.
E. gallium scan.

10. In patients with organic erectile dysfunction, the best response to sildenafil citrate is achieved in those with:

A. vascular disease.
B. prior radical prostatectomy.
C. diabetes mellitus.
D. prior TURP.
E. spinal cord injury.

11. A 38-year-old man has recurrent calcium phosphate stones. 24-hour urine collection reveals pH 6.8 with hypercalciuria and hypocitraturia. Serum chemistries reveal hypokalemia and hyperchloremia. The diagnosis is:

A. laxative abuse.
B. hyperuricosuria.
C. dietary oxalate.
D. distal RTA.
E. primary hyperparathyroidism.

12. A 74-year-old man with a Studer ileal neobladder develops TCC of the proximal urethra three years post-cystectomy. A metastatic evaluation is negative. The next step is:

A. BCG instillation in the urethra and neobladder.
B. urethrectomy and transverse colon loop construction.
C. urethral laser fulguration.
D. urethrectomy and continent cutaneous diversion.
E. urethrectomy and use afferent limb for cutaneous diversion.

13. A distal urethral perforation occurs during insertion of a malleable penile prosthesis. The contralateral cylinder has not been placed. The next step is:

A. place urethral catheter and complete the implantation.
B. repair urethra and implant the contralateral prosthesis.
C. repair urethra and place a suprapubic tube only.
D. repair urethra, proceed with implantation, and place a suprapubic tube.
E. place urethral catheter and terminate the procedure.

14. A 34-year-old man passed a second calcium oxalate stone after hydration and a diet low in sodium and protein. Serum calcium, PTH and urinary phosphorus are normal. 24-hour urine collection reveals hypercalciuria, which remains elevated after one week of a 400 mg calcium and 100 mEq/l sodium diet. The next step is:

A. restrict calcium.
B. restrict oxalate.
C. Vitamin D.
D. allopurinol.
E. thiazide and potassium citrate.

15. A 55-year-old woman has unilateral hydronephrosis on a follow-up CT urogram two years after radical cystectomy and refluxing colon conduit diversion for a Stage T2, Grade III TCC of the bladder. She received pelvic irradiation 12 years ago for cervical carcinoma. The next step is:

A. loopogram.
B. urinary cytology.
C. loop endoscopy.
D. antegrade nephrostogram.
E. balloon dilation.

16. The major immunological defect in patients infected with HIV is:

A. loss of B cell function.
B. loss of T killer cell function.
C. loss of T helper cell function.
D. abnormal macrophage function.
E. abnormal cytotoxic T cell function.

17. A twelve-year-old girl has had intermittent abdominal pain for the last six months. She has not menstruated. Pelvic MRI scan is shown in the exhibit. The diagnosis is:

A. vaginal agenesis.
B. imperforate hymen.
C. androgen insensitivity syndrome.
D. ovarian tumor.
E. anterior myelomeningocele.

18. A 55-year-old man with epigastric discomfort has a 5 cm right adrenal mass with CT attenuation of ^40 Hounsfield units. The next step is:

A. observation.
B. plasma catecholamines.
C. MIBG scan.
D. right adrenalectomy.
E. morning serum Cortisol.

19. In the intact (noncastrate) man, estrogens inhibit prostatic carcinoma by acting primarily on the:

A. testis.
B. anterior pituitary.
C. prostate.
D. adrenal.
E. posterior pituitary.

20. A 32-year-old infertile man with hyperthyroidism has two semen analyses with volumes of 2.2 and 2.5 ml, densities of 5.3 and 7.8 million/ml, and motilities of 48% and 56%, respectively. Serum testosterone is 280 ng/dl (normal 300-1000 ng/dl). Estradiol, LH, FSH, and prolactin are normal. The next step is:

A. repeat semen analysis with post-ejaculatory urinalysis.
B. serum albumin and sex hormone binding globulin.
C. TRUS.
D. clomiphene citrate 25 mg daily.
E. hCG 5000 units twice weekly.

21. A 21-year-old man who underwent inguinal orchiectomy for a pure seminoma of the right testis has an 11 cm retroperitoneal mass. Serum beta-hCG and AFP are normal. Following three cycles of bleomycin, etoposide, cisplatin chemotherapy (BEP), repeat CT scan demonstrates a residual 2 cm mass in the inter-aortocaval region. A chest CT scan is negative, and tumor markers remain normal. The next step is:

A. local excision of the mass.
B. RPLND.
C. observation.
D. salvage chemotherapy.
E. retroperitoneal radiation.

22. When comparing prostatic secretions to those of the seminal vesicles, one would expect the prostatic secretions to exhibit:

	Citrate Level &amp	Fructose Level
A.	higher	lower
B.	higher	higher
C.	lower	lower
D.	lower	similar
E.	similar	lower

23. All patients with recurrent calcium oxalate stones should restrict consumption of:

A. calcium.
B. sodium.
C. citrus fruit.
D. potassium.
E. pyridoxine.

24. A 45-year-old woman has chronic indwelling ureteral stents for bilateral ureteral strictures from radiation therapy for cervical carcinoma. During stent exchange, brisk, bloody efflux occurs upon right ureteral stent removal. After replacing the stent, the next step is:

A. observation.
B. abdominal and pelvic arteriogram.
C. abdominal and pelvic CT scan.
D. immediate open exploration.
E. nephrectomy.

25. A 75-year-old woman has bothersome urinary incontinence requiring the use of 2-3 diapers per day. Urinalysis is negative and the PVR is 150 ml. Physical examination demonstrates good anterior vaginal support and pressure-flow urodynamics reveals low amplitude detrusor overactivity and no evidence of stress incontinence. The next step is:

A. cystoscopy.
B. antimuscarinics.
C. timed voiding.
D. CIC.
E. sacral neuromodulation.

26. The clinical syndrome of septic shock is primarily caused by:

A. intact bacteria.
B. bacterial cystoplasmic contents.
C. bacterial cell wall components.
D. exotoxins.
E. autologous mediators.

27. A 60-year-old man with squamous cell carcinoma of the penis invading the right corpus cavernosum undergoes partial penectomy. After six weeks of cephalexin, a 3.5 cm right inguinal lymph node has decreased in size to 2.0 cm. Pelvic CT scan is normal. The next step is:

A. reevaluation in three months.
B. needle aspiration of the suspicious node.
C. sentinel node biopsy.
D. bilateral inguinal node dissection.
E. right inguinal node dissection.

28. A 42-year-old woman has crampy abdominal pain three months after undergoing a continent cutaneous urinary diversion. She is afebrile and has a WBC of 7500. Her abdomen is mildly distended, diffusely tender, and bowel sounds are present. KUB reveals nonspecific small and large bowel gas patterns. The next step is:

A. I.V. fluids and NG suction.
B. exploratory laparotomy.
C. pouchogram.
D. CT urogram.
E. pouch catheterization.

29. A 56-year-old woman undergoes PCNL for a staghorn calculus. Eight days later she presents to the emergency room with sudden onset gross hematuria and hypotension. Following fluid resuscitation, the next step is:

A. CT scan.
B. renal angiography.
C. cystoscopy with retrograde pyelography.
D. urethroscopy.
E. exploration of nephrostomy tract.

30. Routine staining of a bone biopsy from a 60-year-old man with diffuse metastases reveals poorly differentiated adenocarcinoma. The immunohistochemical stain most likely to determine whether the tumor is of prostatic origin is:

A. cytokeratin.
B. prostate specific membrane antigen (PSMA).
C. prostatic acid phosphatase.
D. PSA.
E. alkaline phosphatase.

31. Headache, facial flushing and hypertension during cystoscopy is most commonly seen in patients with:

A. cervical cord lesion.
B. spinal cord injury between T6 and S2.
C. cauda equina injury.
D. multiple sclerosis.
E. reflex sympathetic dystrophy.

32. The C-arm fluoroscopic operational factor resulting in an increased radiation dose to both the patient and operating room personnel is:

A. increasing tube kilovoltage (kVp).
B. increasing tube current (mA).
C. decreasing image intensifier to skin distance.
D. removing the image intensifier grid.
E. increasing the x-ray tube (source) to skin distance.

33. A 40-year-old woman undergoes bilateral adrenalectomy for Cushing's disease. She receives Cortisol and fluorocortisone replacement and two years later has progressive hyperpigmentation. The study most likely to suggest the cause of her hyperpigmentation is a(an):

A. serum Cortisol level.
B. abdominal CT scan.
C. cranial MRI scan.
D. dexamethasone suppression test.
E. urinary 17-hydroxycorticosteroid level.

34. A 63-year-old man, two years after a successful renal transplant, has an edematous scrotum with a 2 cm nontender erythematous patch. In-situ hybridization on the biopsy tissue is positive for human herpes virus 8. This lesion is most likely:

A. Kaposi's sarcoma.
B. condyloma acuminata.
C. Bowen's disease.
D. posttransplant lymphoproliferative disorder.
E. erythema multiforme.

35. A 36-year-old man on chronic hemodialysis has gynecomastia, diminished libido, erectile dysfunction, and bone pain. The primary etiology is:

A. reduced sex hormone binding globulin.
B. high prolactin.
C. low Cortisol.
D. hyperparathyroidism.
E. elevated estradiol.

36. A 42-year-old man had a right radical nephrectomy two years ago for a Stage T3aNoMx RCC. He now has right hip pain. Bone scan shows intense uptake in the right hip area and plain films of the right femur show a 3.5 cm lytic lesion. The next step is:

A. external beam radiation to the femur.
B. strontium-89.
C. internal fixation of the femur.
D. pain management.
E. systemic immunotherapy.

37. A 72-year-old man is noted to have a large bladder on a CT scan performed for colonic diverticular disease. He has no urinary tract symptoms. His prostate is 30 gm and benign. PVR is 150 ml. A urinalysis is negative. The next step is:

A. observation.
B. alpha-blocker.
C. 5-alpha-reductase inhibitor.
D. 5-alpha-reductase inhibitor and an alpha-blocker.
E. TURP.

38. A 32-year-old man with congenital bilateral absence of the vas deferens desires a biological child. Testing for the cystic fibrosis transmembrane conductance regulator (CFTR) gene is negative. The next step is:

A. test the man's parents for the CFTR gene.
B. proceed with testicular sperm extraction and ICSI.
C. CFTR testing of his wife.
D. proceed with testicular sperm extraction and ICSI and do pre-implantation genetic diagnosis.
E. CFTR testing of the man's sperm.

39. Deletions of the short arm of chromosome 3 occur most frequently in association with:

A. papillary renal cell carcinoma.
B. angiomyolipoma.
C. renal medullary carcinoma.
D. oncocytoma.
E. clear cell renal cell carcinoma.

40. A 48-year-old woman complains of stress incontinence. She denies any symptoms of urge incontinence. On exam she has urethral hypermobility. Videourodynamics confirms the diagnosis of stress incontinence with mobility. Detrusor overactivity is demonstrated at 400 ml with a detrusor contraction of 25 cm H_20. The best next step is:

A. oxybutynin.
B. pseudoephedrine and oxybutynin.
C. transurethral collagen injection.
D. transvaginal needle suspension.
E. sling procedure.

41. A 43-year-old man has recurrent calcium oxalate stones. Twenty-four hour urine collections show low calcium, magnesium and citrate, and high oxalate. The factor most likely contributing to his stones is:

A. hyperparathyroidism.
B. inflammatory bowel disease.
C. excess Vitamin D intake.
D. excess Vitamin C intake.
E. RTA.

42. The epithelial lining of the distal periurethral prostatic ducts is:

A. stratified.
B. pseudostratified.
C. squamous.
D. transitional.
E. cuboidal.

43. A 58-year-old man undergoes urodynamics for the evaluation of severe urinary incontinence following radical prostatectomy. Stress urinary incontinence occurs with a Valsalva maneuver to 40 cm H_20. Detrusor pressure prior to the onset of volitional micturition at 400 ml is 3 cm H_20. Voiding occurs completely by Valsalva maneuver. PVR is 10 ml. The best long term treatment is:

A. periurethral bulking agent.
B. transperineal bone anchored cadaveric fascial sling.
C. artificial urinary sphincter.
D. sacral neuromodulation.
E. suprapubic tube.

44. The agent that is part of second line therapy for multi-drug resistant genitourinary tuberculosis is:

A. isoniazid.
B. ciprofloxacin.
C. para-aminosalicylate.
D. pyrazinamide.
E. rifampin.

45. Twenty-four hours after a newborn circumcision, a 1.5 cm skin separation is noted. The best management is:

A. immediate reapproximation.
B. delayed reapproximation.
C. split thickness skin graft.
D. full thickness skin graft.
E. healing by secondary intention.

46. A 55-year-old man with hypertension and erectile dysfunction treated with amlodipine 10 mg and sildenafil 25 mg complains of LUTS and has an International Prostate Symptom Score (IPSS) score of 18. His prostate exam is benign. He opts for alpha-blocker therapy. He should be instructed to:

A. switch to vardenafil.
B. use tamsulosin 0.4 mg daily at any time.
C. use tamsulosin 0.4 mg daily separated by 4 hours from sildenafil.
D. use tamsulosin 0.4 mg daily separated by 12 hours from sildenafil.
E. decrease amlodipine dose before combining tamsulosin and sildenafil.

47. A 32-year-old woman underwent a left PCNL three years ago for a staghorn calculus. Since then she has experienced intermittent left flank pain and episodes of pyelonephritis. An IVP shows a normal right kidney, marked hydronephrosis on the left with a nearly obliterated renal pelvis, and a 2 cm segment of proximal ureteral narrowing. A renogram shows a differential function of 65% of the right and 35% on the left. The best treatment for the left side is:

A. ureterocalicostomy.
B. retrograde endopyelotomy.
C. percutaneous endopyelotomy.
D. pyeloplasty.
E. nephrectomy.

48. A 72-year-old man has nausea and nocturia. The following serum values are obtained: BUN 46 mg/dl, creatinine 2.4 mg/dl, sodium 134 mEq/l, potassium 6.1 mEq/l, chloride 105 mEq/l, CO_2 17 mEq/l. The urine pH is 6.5 and a urine culture is negative. These data are most consistent with:

A. Type I RTA.
B. Type II RTA.
C. obstructive uropathy.
D. diuretic abuse.
E. persistent vomiting.

49. Parasympathetic post-ganglionic neurons are located in the:

A. autonomic chain ganglia.
B. detrusor muscle.
C. dorsal root ganglia.
D. ventral horn of the spinal cord.
E. inferior mesenteric ganglia.

50. Optimal treatment for an infertile man with a prolactin-secreting pituitary adenoma is:

A. cabergoline.
B. testosterone.
C. prednisone.
D. radiation therapy.
E. surgical excision.

51. A 13-year-old boy is undergoing a laparoscopic colectomy for ulcerative colitis during which the lower half of the left ureter is resected with the colon. The procedure has been converted to an open technique for completion. The next step is:

A. ileal ureter.
B. cutaneous ureterostomy.
C. transureteroureterostomy.
D. auto transplantation and ureteroneocystostomy.
E. nephrectomy.

52. A 86-year-old man in a nursing home develops urinary incontinence. He has a 30 gm nontender prostate, absent bulbocavernosus reflex, and hard stool on DRE. Urinalysis is normal and a PVR is 80 ml. The next step is:

A. PSA.
B. stool softeners and timed voiding.
C. uroflow.
D. tamsulosin.
E. oxybutynin.

53. A 24-year-old paraplegic man manages his bladder with CIC. At a routine office visit, he is found to have pyuria and bacteriuria. The strongest indication for antimicrobial therapy is:

A. greater than 10 WBC/hpf.
B. greater than 100,000 CFU/ml on urinary culture.
C. increased urinary leakage between catheterizations.
D. recent decrease in the frequency of his catheterizations.
E. malodorous urine that interferes with routine social activity.

54. Furosemide acts primarily by inhibiting sodium reabsorption in the:

A. collecting duct.
B. proximal tubule.
C. ascending limb of Henle's loop.
D. descending limb of Henle's loop.
E. distal tubule.

55. A 25-year-old single man complains of premature ejaculation, with an intravaginal ejaculatory latency time of 30 seconds. He is distressed by this problem. His penile vibration stimulation thresholds are normal. The next step is:

A. psychological counseling.
B. daily fluoxetine.
C. on demand sertraline.
D. daily bupropion.
E. topical lidocaine/prilocaine.

56. An 18-year-old man injured in a MVC has blood at the external urethral meatus. An indication for urethral catheter drainage of the bladder, without further surgical exploration, is:

A. retrograde urethrogram demonstrating disruption of the penile urethra.
B. retrograde urethrogram demonstrating partial tear of the posterior urethra.
C. extraperitoneal bladder perforation in association with pelvic fracture requiring surgical repair.
D. extraperitoneal bladder perforation with bone fragment penetrating the bladder wall.
E. intraperitoneal bladder perforation with only microscopic hematuria.

57. A 32-week-male fetus has bilateral hydroureteronephrosis and a thick-walled bladder on ultrasound. The most important information needed to determine further prenatal care is:

A. renal parenchymal echogenicity.
B. presence and timing of onset of oligohydramnios.
C. degree of bladder dilation and thickening.
D. urine electrolytes and beta-2 microglobulin levels.
E. presence of a perinephric urinoma.

58. A 68-year-old man with bothersome voiding dysfunction completes a voiding diary revealing 12 voids in 24 hours with volumes ranging from 30 ml to 150 ml, nocturia x 3, and one episode of incontinence. PVR is 50 ml. PSA is 1.8 ng/ml. Non-invasive uroflowmetry reveals a flattened pattern with a peak flow of 6 ml/sec. His condition is best described as:

A. BPH.
B. bladder outlet obstruction.
C. detrusor overactivity.
D. detrusor underactivity.
E. LUTS.

59. A 34-year-old woman with recurrent, uncomplicated bacterial cystitis has a past history of multiple episodes of fungal vaginitis. The optimal agent for low-dose, long-term antimicrobial prophylaxis is:

A. norfloxacin.
B. trimethoprim.
C. trimethoprim-sulfamethoxazole.
D. ciprofloxacin.
E. nitrofurantoin.

60. A one-month-old girl has massive right hydronephrosis secondary to UPJ obstruction. The left kidney appears normal. Isotope renography shows relative renal function of 85% on the left and 15% on the right. The next step is:

A. right nephrectomy.
B. right percutaneous nephrostomy.
C. repeat renography in three months.
D. right pyeloplasty.
E. right cutaneous pyelostomy.

61. A 67-year-old woman underwent an uncomplicated transobturator midurethral monofilament polypropylene sling. One week later, she is asymptomatic but on physical examination there is a partial wound dehiscence with a 0.5 cm segment of exposed polypropylene sling material at the base of the wound. The next step is:

A. topical estrogen cream and re-evaluation in several weeks.
B. mobilization of vaginal flaps, vaginal wound closure and Penrose drain.
C. explantation of the exposed sling material and vaginal wound closure.
D. explantation of the entire sling.
E. explantation of the sling and placement of an autologous pubovaginal fascial sling.

62. Luteinizing hormone (LH) timed intrauterine insemination would most likely benefit subfertile couples with:

A. significant levels of male antisperm antibodies.
B. severe oligospermia.
C. cervical stenosis and low semen volume.
D. asthenospermia.
E. cervical incompetence.

63. An infant has the prenatal diagnosis of a solid abdominal mass that spontaneously regresses on serial postnatal ultrasounds during the first year of life. The most likely diagnosis is:

A. mesoblastic nephroma.
B. Wilms' tumor.
C. neuroblastoma.
D. sacrococcygeal teratoma.
E. retroperitoneal yolk sac tumor.

64. The coagulation of human semen is dependent on:

A. seminal vesicle-specific antigen.
B. PSA.
C. calcium.
D. fibrinogen.
E. factor XII.

65. A 38-year-old woman has severe right flank pain. She is afebrile and urinalysis demonstrates pyuria and microhematuria. A noncontrast CT scan demonstrates right perinephric fluid and right hydroureteronephrosis down to a 3 mm distal ureteral stone. The next step is:

A. ureteral stent.
B. percutaneous nephrostomy drainage.
C. percutaneous drainage of perinephric fluid.
D. ureteroscopic stone removal.
E. medical management.

66. A one-week-old boy is observed to void in small amounts with 5 to 10 minute intervals between several voiding episodes. He is otherwise well. The next step is:

A. bladder and kidney ultrasound.
B. VCUG.
C. check PVR.
D. observation.
E. retrograde urethrogram.

67. A 43-year-old woman undergoes placement of a sacral neuromodulator with implantable pulse generator. Three months following placement she reports pain at the generator site that does not improve after the device is turned off. Physical exam is unremarkable. The next step is:

A. reprogram the device at alternate settings.
B. explantation of entire device.
C. local exploration of implantable generator.
D. relocation of generator to alternate site.
E. treatment with amoxicillin or cephalexin for one week and re-evaluate.

68. The optimal dose of 30% iodinated contrast material for an intraoperative IVP in a non-obese adult patient suspected of having renal trauma is:

A. 0.5 ml/kg.
B. 1.0 ml/kg.
C. 2.0 ml/kg.
D. 2.5 ml/kg.
E. 3.0 ml/kg.

69. A 17-year-old girl with neurogenic bladder secondary to meningomyelocele had an artificial urinary sphincter placed two years ago. At that time, her detrusor LPP was 15 cm **H2O** at bladder capacity of 350 ml. Two years later, she is continent, but renal ultrasonography shows new moderate bilateral hydronephrosis. The most likely etiology is:

A. sphincter erosion.
B. ureterovesical junction obstruction due to the sphincter.
C. decreased bladder compliance.
D. excessive sphincter cuff pressure.
E. changing neurologic lesion.

70. A 72-year-old man on LH-RH agonist therapy reports difficulty voiding 30 months following brachytherapy for localized prostate cancer, and undergoes TURP. Before brachytherapy, his prostate volume was 30 gm, his PSA was 5.2 ng/ml and International Prostate Symptom Score (IPSS) was 7. The factor most likely to correlate with incontinence following TURP is:

A. pre-operative PSA.
B. prostate volume.
C. treatment with LH-RH agonist therapy.
D. time since brachytherapy.
E. preoperative IPSS.

71. In patients with uric acid stones, the primary underlying metabolic defect is:

A. hyperuricosuria.
B. hyperuricemia.
C. low urine pH.
D. low urine volume.
E. RTA.

72. A three-year-old boy lost one-half of his scrotal skin after a dog attack two hours ago. His testicles, penis and urethra are spared. Best management includes antibiotics, debridement, and:

A. split thickness skin graft.
B. full thickness skin graft.
C. placement of testicles in the thigh.
D. scrotal closure with drainage.
E. secondary scrotal closure.

73. The primary effect of marked chronic diuresis upon the ureter is:

A. no change.
B. aperistalsis.
C. dilation.
D. stress relaxation.
E. fibrosis.

74. Which of the following is a polygenic disorder:

A. cystinuria.
B. Type I primary hyperoxaluria.
C. Type II primary hyperoxaluria.
D. idiopathic calcium oxalate nephrolithiasis.
E. adenine phosphoribosyl transferase deficiency.

75. The least likely location for an ectopic ureteral orifice in a boy is the:

A. seminal vesicle.
B. vas deferens.
C. bladder neck.
D. prostatic urethra.
E. pendulous urethra.

76. Seminal emission depends on an intact:

A. parasympathetic and somatic nervous system.
B. sympathetic nervous system.
C. parasympathetic nervous system.
D. sympathetic and parasympathetic nervous system.
E. sympathetic and somatic nervous systems.

77. Which of the following is most likely to cause painful gynecomastia:

A. leuprolide.
B. leuprolide and flutamide.
C. ketoconazole.
D. bicalutamide.
E. finasteride.

78. A five-year-old girl is treated for cystitis. She has urge incontinence four days per week and nocturnal enuresis. A VCUG shows no reflux. Physical examination is normal. The next step is:

A. DDAVP®.
B. oxybutynin.
C. imipramine.
D. timed voiding.
E. observation.

79. The most significant complication of cyclosporine administration is:

A. cardiac toxicity.
B. bone marrow depression.
C. renal toxicity.
D. urticarial skin rash.
E. sodium retention.

80. A 27-year-old woman at 30 weeks of gestation has gross hematuria. Ultrasound shows a normal pregnancy and a maternal bladder lesion. Cystoscopy reveals a 3 cm pedunculated papillary lesion. The remainder of the bladder is normal. The next step is:

A. immediate transurethral resection.
B. early delivery followed by transurethral resection.
C. transurethral resection after term delivery.
D. remove tumor with cup biopsy forceps at initial cystoscopy.
E. immediate tumor ablation with Nd:YAG laser.

81. During exploration of a retroperitoneal hematoma from blunt renal trauma, the best anatomic landmark for the left renal artery is the:

A. inferior mesenteric artery.
B. left renal vein.
C. right renal artery.
D. left gonadal vein.
E. left ureter.

82. A 24-year-old man with a gunshot wound shattering the L-4 vertebral body achieves stable neurogenic bladder dysfunction nine months later. Pressure flow urodynamic studies will likely show:

A. detrusor overactivity, sphincter dyssynergia.
B. detrusor overactivity, normal sphincter EMG.
C. detrusor areflexia, sphincter dyssynergia.
D. detrusor areflexia, normal sphincter EMG.
E. detrusor areflexia, denervation potentials on EMG.

83. Instillation of perioperative intravesical chemotherapy after a complete TURBT for TCC of the bladder is effective only if given:

A. immediately following the resection.
B. within six hours of the resection.
C. within 24 hours of the resection.
D. within seven days of the resection.
E. within two weeks of the resection.

84. A 70 kg diabetic man submits a 24-hour urine with a volume of 1400 ml and a urine creatinine of 140 mg/dl. This represents (a):

A. renal insufficiency.
B. diabetic hyperfiltration.
C. incomplete urine collection.
D. complete urine collection.
E. collection longer than 24 hours.

85. A 40-year-old man has recent onset of erectile dysfunction. He also has a long-standing history of hypertension and dyslipidemia, treated with an ACE inhibitor and a statin, respectively. He has been using tadalafil for the past month for his erectile dysfunction. He complains of profound lower limb muscle pain. The next step is:

A. switch to another PDE5 inhibitor.
B. switch anti-hypertensive to a calcium channel blocker.
C. check serum creatine kinase level.
D. co-administer a NSAID.
E. Doppler ultrasound of lower extremity.

86. The manifestation of the von Hippel-Lindau syndrome that tends to be clustered only within a subset of affected families is:

A. renal cell carcinoma.
B. pheochromocytoma.
C. retinal angioma.
D. cerebellar hemangioblastoma.
E. epididymal papillary cystadenoma.

87. An 11-year-old boy has hypertension associated with paroxysmal headaches, nausea, and vomiting. A renal Doppler ultrasound is normal. Plasma and urine catecholamine levels are highly elevated during a hypertensive episode. The next step is:

A. glucagon stimulation test.
B. clonidine suppression test.
C. abdominal CT scan.
D. abdominal MRI scan.
E. MIBG scan.

88. A 60-year-old man with retinitis pigmentosa and erectile dysfunction fails to get an erection with intracorporal and intraurethral PGE-1. His serum testosterone level is 400 ng/dl and color Doppler peak flow velocity of the cavernous arteries is 16 cm/sec after 20 meg of PGE-1. The next step is:

A. counseling.
B. sildenafil.
C. insertion of penile prosthesis.
D. testosterone supplementation.
E. yohimbine.

89. A 67-year-old woman with steroid dependent COPD has multifocal CIS of the bladder. The next step is intravesical:

A. BCG.
B. thiotepa.
C. doxorubicin.
D. mitomycin C.
E. valrubicin.

90. A six-month-old boy has a posterior sagittal anoplasty for a high imperforate anus. After the urethral catheter is removed, he has persistent urinary retention. The most likely cause is:

A. pudendal nerve injury.
B. bladder neck injury.
C. lumbosacral spine anomaly.
D. failure to close urethrorectal fistula.
E. unrecognized pelvic abscess.

91. During the third trimester of pregnancy, the most common changes in renal function are:

A. elevated BUN; decreased creatinine.
B. elevated BUN; elevated creatinine.
C. decreased BUN; decreased creatinine.
D. decreased BUN; elevated creatinine.
E. unchanged BUN and creatinine.

92. A 56-year-old female develops a 3.0 cm benign ureteral stricture at the left ureteroileal anastomosis six months after a radical cystectomy and ileal neobladder. Left renal function is 25%. The next step is:

A. endoscopic balloon dilation.
B. endoscopic cold knife incision.
C. metallic stent placement.
D. open surgical repair.
E. nephrectomy.

93. Fetal UPJ obstruction is most difficult to distinguish from:

A. multicystic dysplastic kidney.
B. polycystic kidney.
C. ectopic ureterocele.
D. posterior urethral valves.
E. refluxing megaureter.

94. A 68-year-old man with end-stage renal failure due to chronic glomerulonephritis has been on peritoneal dialysis for three years. He is anuric and asymptomatic. An ultrasound reveals several non-echogenic cysts involving the left kidney. The next step is:

A. left nephrectomy.
B. CT scan.
C. renal arteriography.
D. repeat ultrasound in two years.
E. conversion to hemodialysis.

95. In comparing the traditional TRUS-guided sextant biopsy to extended peripheral zone sampling techniques, the location with the lowest unique cancer detection rate is:

A. mid-lobar base of the traditional sextant.
B. mid-lobar, mid gland of the traditional sextant.
C. mid-lobar apex of the traditional sextant.
D. lateral base of the extended.
E. lateral mid gland of the extended.

96. The presence of nephrogenic rests may predispose to:

A. adenocarcinoma.
B. sarcoma.
C. adenoma.
D. hamartoma.
E. Wilms' tumor.

97. The renal toxicity of radiocontrast material is due to:

A. glomerular injury.
B. afferent arteriolar constriction.
C. efferent arteriolar constriction.
D. intrarenal vasoconstriction and tubular necrosis.
E. efferent arteriolar dilation and tubular necrosis.

98. A 36-year-old obese paraplegic man undergoes evaluation for an ileal conduit diversion. The preferred site for urostomy placement is:

A. right upper quadrant lateral to rectus.
B. right upper quadrant through rectus.
C. right lower quadrant through rectus.
D. right lower quadrant lateral to rectus.
E. in midline at umbilicus.

99. A 16-year-old obese girl with spina bifida, mental retardation, and poor manual dexterity has total urinary incontinence and is presently treated with diapers alone. She has normal upper tracts and infected urine on occasion. She has recurrent perineal ulcers that do not heal. The best management is:

A. vesicostomy.
B. colon conduit.
C. bladder augmentation.
D. ureterosigmoidostomy.
E. CIC.

100. During transabdominal placement of an artificial urinary sphincter reservoir for post-radical prostatectomy urinary incontinence, the peritoneal cavity is entered. There is no bowel injury. The next step is:

A. close the wound and terminate the procedure.
B. close the wound and relocate the reservoir to another abdominal location.
C. place the reservoir intraperitoneal^ and complete the procedure.
D. close the peritoneum and place the reservoir above the rectus abdominis musculature.
E. convert to a trans-scrotal placement of the reservoir.

101. The most accurate method to estimate prostate volume by ultrasound is based on:

A. planimetry.
B. a sphere.
C. an ellipse.
D. a prolate ellipse.
E. a prolate sphere.

102. The most common long-term sequela of a renal arteriovenous fistula occurring after needle biopsy of the kidney is:

A. hematuria.
B. flank pain.
C. diastolic hypertension.
D. tachycardia.
E. spontaneous closure.

103. A 58-year-old man has frequency and nocturia, an AUA Symptom Score of 22, peak urinary flow rate of 8 ml/sec, and PVR of 200 ml. His prostate is 70 gm with a prominent median lobe. Sitting systolic blood pressure is 140 mm Hg. An orthostatic blood pressure change of 25 mm Hg is not associated with postural symptoms. He is concerned about developing ejaculatory dysfunction. The best treatment is:

A. finasteride.
B. alfuzosin.
C. TUIP.
D. transurethral vaporization of the prostate.
E. TUMT.

104. A 74-year-old man with metastatic prostate cancer is treated with leuprolide and bicalutamide. After an initial response, his PSA rises to 34.5 ng/ml and the anti-androgen is stopped. Over the next six weeks, the PSA rises to 64 ng/ml, and he develops a left leg DVT as well as mild lower back pain. The next step is anticoagulation and:

A. flutamide.
B. ketoconazole and hydrocortisone.
C. docetaxel and estramustine.
D. spinal radiation.
E. strontium 89.

105. The spread of urinary extravasation secondary to urethral injury below the urogenital diaphragm, when associated with a tear in Buck's fascia, is limited by the following fascial layers:

A. Denonvilliers' and Colles'.
B. Colles' and Scarpa's.
C. Scarpa's and Denonvilliers'.
D. dartos and Colles'.
E. dartos and Denonvilliers'.

106. A 52-year-old man develops abrupt and severe hypertension. He is poorly controlled with an ACE inhibitor, calcium channel blocker, diuretic, and minoxidil. None of these medications can be safely withheld. Serum creatinine is 1.3 mg/dl. The best way to evaluate for renovascular hypertension is:

A. captopril plasma renin activity test.
B. unstimulated plasma renin activity test.
C. captopril renography.
D. duplex ultrasound.
E. diuretic renography.

107. A 58-year-old obese man has 400 ml of bile-stained fluid coming from his drain two days following transperitoneal laparoscopic unroofing of a large right renal cyst. He is afebrile and his bowel sounds are normal. The leakage persists over the next five days despite nasogastric suction. KUB and upright abdominal x-rays are normal. The next step is:

A. feeding jejunostomy tube.
B. laparotomy.
C. parenteral nutrition.
D. somatostatin.
E. small bowel suction (Kantor) tube.

108. A 62-year-old woman with metastatic renal cancer develops lethargy and confusion. Laboratory studies reveal: serum calcium 15.6 mg/dl, phosphorus 4.4 mg/dl, and creatinine 2.0 mg/dl. The best initial therapy is:

A. mithramycin.
B. furosemide.
C. steroids.
D. intravenous saline.
E. calcitonin.

109. A 65-year-old man with rectal carcinoma treated by abdominal perineal resection develops urinary incontinence two years later. His urinalysis is normal and PVR is 300 ml. Renal ultrasound demonstrates moderate bilateral hydronephrosis. The most likely urodynamic findings are:

A. detrusor overactivity with bladder outlet obstruction.
B. detrusor overactivity with external sphincter dyssynergia.
C. detrusor areflexia with normal compliance.
D. detrusor areflexia with poor compliance.
E. impaired bladder contractility with intrinsic sphincter deficiency.

110. A 59-year-old man with a history of liver transplantation has a 1 cm raised, tender, penile lesion at the coronal sulcus dorsally. Incisional biopsy reveals Kaposi's sarcoma. The next step is:

A. decrease immunosuppression.
B. topical 5-FU.
C. local excision.
D. $C0_2$ laser ablation.
E. partial penectomy.

111. When removing a large left adrenal pheochromocytoma, the first blood vessel(s) that should be ligated is (are) the:

A. aortic arterial branches.
B. superior phrenic artery.
C. inferior phrenic vein.
D. adrenal vein.
E. inferior adrenal artery.

112. A 26-year-old schizophrenic man is evaluated two hours after self-amputation of his phallus at its base with a knife. The amputated organ has been preserved at room temperature. The next step is suprapubic cystotomy, debridement, and:

A. stump closure with distal spatulation of urethra.
B. stump closure with perineal urethrostomy.
C. leave stump open to heal by secondary intention.
D. creation of neophallus with abdominal pedicle flap.
E. reimplantation of phallus.

113. A 56-year-old man undergoes a TUR of a sessile bladder tumor. The pathology reveals a T1 TCC. Before deciding upon additional treatment, a repeat resection must be done if the initial pathology has:

A. lymphovascular invasion.
B. carcinoma in-situ.
C. high grade disease.
D. no muscularis propria.
E. no muscularis mucosa.

114. The obliterated umbilical artery originates from which of the following arteries:

A. superior gluteal.
B. obturator.
C. middle sacral.
D. internal iliac.
E. external iliac.

115. A 50-year-old woman has urinary frequency, occasional urge incontinence, and dyspareunia. She has a history of recurrent UTIs. On physical examination, the bladder is not distended, but the urethra is tender to palpation. Which of the following would most reliably establish a definitive diagnosis:

A. cystogram.
B. urethral calibration with PVR assessment.
C. pelvic MRI scan.
D. cystoscopy.
E. urodynamics.

116. A 49-year-old man had a hand-assisted laparoscopic radical nephrectomy for a 3.8 cm renal mass. Pathologic analysis reveals a grade 3 clear cell RCC confined to the kidney and three regional lymph nodes are negative. The most appropriate follow up for this patient in addition to routine history and physical exam is:

A. laboratory studies yearly.
B. labs, CXR, and CT scan yearly.
C. labs, CXR, CT scan, and bone scan yearly.
D. labs and CXR every six months for three years then yearly.
E. labs, CXR, and CT scan every six months for three years then yearly.

117. A 15-year-old boy involved in an MVC has multiple injuries. He has been oliguric for 24 hours. Non-contrast CT scan reveals no hydronephrosis and a minimal amount of urine in the bladder. Urinary dipstick and urine sediment are normal. The following laboratory values are obtained: serum creatinine 3.0 mg/dl, serum potassium 5.5 mEq/l, urine osmolality 525 mOsm/l, urine sodium 18 mEq/l, fractional excretion of sodium is < 1%. The next step is:

A. low-dose dopamine.
B. volume replacement.
C. hemodialysis.
D. renal scan.
E. serum myoglobin.

118. Nephrogenic adenoma of the bladder is associated with:

A. a higher incidence in women.
B. cytomegalovirus infection.
C. adenocarcinoma of the bladder.
D. cystitis cystica.
E. prior bladder injury.

119. Among patients with metastatic renal cell carcinoma, sorafenib:

A. is ineffective if prior IL-2 was given.
B. is palliative in those with brain metastases.
C. improves resectability if given neoadjuvantly.
D. improves progression-free survival.
E. improves overall survival.

120. A newborn baby has a palpable abdominal mass. An ultrasound shows a normal right kidney and numerous large and small cysts replacing the left kidney. A VCUG shows Grade I/V right VUR and a DMSA scan demonstrates no function in the left kidney. The most likely consequence of this condition is:

A. hypertension.
B. renal insufficiency.
C. pancreatic cysts.
D. involution of the left kidney.
E. hepatic fibrosis.

121. A 22-year-old man develops severe hemorrhagic cystitis ten days following bone marrow transplantation for acute myelocytic leukemia. He had received cyclophosphamide prior to his transplantation. He requires numerous transfusions despite therapy with hydration, continuous bladder irrigation, and a single intravesical instillation of 3% formalin. The next step is:

A. bilateral percutaneous nephrostomy drainage.
B. intravesical irrigation with 1% aluminum potassium sulfate.
C. intravesical instillation of 1 % silver nitrate.
D. hypogastric artery embolization.
E. administration of sodium 2-mercaptoethane sulfonate (Mesna).

122. A 51 year-old man has a T1c, Gleason 7 prostate cancer with a PSA of 9.1 ng/ml. He has moderate LUTS (IPSS=15) and prostate volume of 42 cc. Before any treatment decisions are made, he should undergo:

A. CT scan of abdomen and pelvis.
B. bone scan.
C. urodynamics.
D. assessment of life expectancy.
E. Prostascint® scan.

123. A phenotypically normal three-year-old girl has testicles found in the hernia sacs at herniorrhaphy. She will also have:

A. elevated 17-hydroxyprogesterone.
B. absent 5-alpha-reductase.
C. abnormal androgen receptor activity.
D. low testosterone and elevated LH and FSH.
E. 46 XO/XY karyotype.

124. A 66-year-old man is scheduled for elective repair of a 7 cm abdominal aortic aneurysm. CT scan shows peri-aneurysmal fibrosis, a normal right kidney, and marked left hydronephrosis with cortical loss. Renogram demonstrates 25% function on the left, and a retrograde pyelogram reveals entrapment of a 6 cm segment of the mid-left ureter. The serum creatinine is 1.6 mg/dl. The next step is aneurysm repair and:

A. left ureterolysis.
B. delayed ureterolysis.
C. steroid therapy.
D. left nephrectomy.
E. balloon dilation.

125. A 58-year-old man has T1c, Gleason score 6 prostate cancer. Pretreatment PSA is 4.7 ng/ml. The most important factor to consider regarding treatment decision making for this patient is:

A. prostate volume.
B. results of bone scan.
C. PSA velocity.
D. AUA symptom score.
E. patient preference.

126. The deep dorsal vein of the penis courses:

A. between Colles' and Buck's fascia.
B. between Buck's fascia and tunica albuginea.
C. between the corpora cavernosa.
D. in the subtunical space.
E. in the center of the corpus cavernosum.

127. The risk of HIV transmission from a single blood transfusion is:

A. 1 in 100,000.
B. 1 in 250,000.
C. 1 in 500,000.
D. 1 in 2,000,000.
E. 1 in 10,000,000.

128. A 43-year-old potent man is diagnosed with a 4 cm micropapillary TCC that extensively invades the lamina propria. Muscularis propria is present and uninvolved. Lymphovascular invasion is identified. The next step is:

A. restaging TURBT and intravesical BCG if muscle invasion is absent.
B. partial cystectomy followed by radiation therapy.
C. neoadjuvant cisplatin-based chemotherapy followed by radical cystectomy.
D. nerve sparing radical cystoprostatectomy.
E. cisplatin-based chemotherapy and radiation therapy.

129. The radioisotope that is most helpful in identifying renal parenchymal scarring on a renal scan is:

A. Tc DTPA.
B. MAG-3.
C. Tc glucoheptonate.
D. MIBG.
E. Tc DMSA.

130. A 29-year-old Jehovah's Witness complains of recurrent UTIs and flank pain. A non-contrast CT scan reveals a complete right-sided staghorn calculus with hydronephrosis. Renal scan confirms adequate differential function. The next step is:

A. antibiotic suppression.
B. acetohydroxamic acid.
C. SWL.
D. PCNL.
E. anatrophic nephrolithotomy.

131. During performance of a TRUS of the prostate, decreasing the transducer frequency from 7.5 to 4.5 MHz would:

A. decrease resolution and increase depth of penetration.
B. increase resolution and decrease depth of penetration.
C. decrease resolution and decrease depth of penetration.
D. increase resolution and increase depth of penetration.
E. have no effect on resolution and depth of penetration.

132. A 32-year-old man desires a biological child. Both testes are 4 cm in long axis and soft. Two semen analyses reveal azoospermia with volumes 3.0 ml and 3.1 ml. Testosterone is 280 ng/dl (normal 300-1000 ng/dl), LH is 7.5 IU/l (normal 2-12 IU/l) and FSH is 8.5 IU/l (normal 2-12 IU/l). The next step is:

A. repeat semen analysis.
B. clomiphene citrate.
C. hCG and recombinant FSH.
D. testis biopsy.
E. epididymovasostomy.

133. A 32-year-old woman complains of a malodorous fishy vaginal discharge. She has a single male partner and uses an intrauterine device for contraception. The next step is:

A. remove intrauterine device.
B. metronidazole for patient.
C. metronidazole for patient and partner.
D. ciprofloxacin for patient.
E. ciprofloxacin for patient and partner.

134. In a man who has good daytime continence following radical cystectomy and orthotopic neobladder, nocturnal incontinence is due to:

A. damage to the urinary rhabdosphincter.
B. neobladder hypercontractility.
C. inadequate compliance of the neobladder.
D. loss of afferent input from the detrusor to the central nervous system.
E. damage to the inferior hypogastric nerve plexus.

135. A nine-year-old girl with a history of documented asymptomatic bacteruria changes pediatricians. The new physician treats her bacteruria with multiple courses of antibiotics. She then develops pyelonephritis twice in a six month period. Her VCUG, renal ultrasound, and toilet habits are normal. Her pyelonephritis is likely due to:

A. intermittent VUR.
B. change in bacterial strain.
C. menarche.
D. subclinical constipation.
E. detrusor sphincter dyssynergia.

136. A 72-year-old woman undergoes an abdominal hysterectomy for uterine fibroids. In the recovery room, she is anuric for four hours despite several boluses of intravenous fluids. Her indwelling catheter is patent. Her blood pressure is 100/50 mmHg, pulse is 100. Estimated blood loss during the procedure was 1000 ml. The best explanation for her condition is:

A. acute tubular necrosis.
B. bilateral ureteral obstruction.
C. prerenal azotemia.
D. hypovolemic shock.
E. vesicovaginal fistula.

137. A 77-year-old man with hypertension, coronary artery disease, and a creatinine of 1.9 mg/dl has gross hematuria. Cystoscopy reveals a normal bladder and bilateral retrogrades show a small right distal ureteral filling defect. On ureteroscopy there is a 5 mm solitary papillary tumor and biopsy demonstrates a low grade TCC The next step is:

A. intravesical BCG with ureteral stent in place.
B. ureteroscopic laser ablation of tumor.
C segmental resection and ureteroureterostomy.
D. distal ureterectomy with reimplant.
E. laparoscopic nephroureterectomy.

138. A 32-week-gestation neonate is found to have candiduria on two successive urine cultures. He is voiding spontaneously, and his renal/bladder ultrasound is normal. The most appropriate therapy is:

A. repeat urine culture in one week.
B. circumcision.
C. intravesical amphotericin.
D. parenteral fluconazole.
E. parenteral amphotericin.

139. A 34-year-old HIV positive man has fever, dysuria, and diarrhea. Physical examination reveals a tender prostate and the urine culture is negative. TRUS demonstrates multiple hypoechoic lesions confined to the posterior prostate gland. The most definitive therapy is administration of broad spectrum I.V. antibiotics and:

A. insertion of suprapubic tube.
B. insertion of urethral catheter.
C. needle aspiration of the prostate for culture.
D. transurethral unroofing of abscess.
E. transrectal drainage of abscess.

140. A 63 year-old man with no prior history of bladder cancer and a normal preoperative bladder washing for cytology has a solitary 0.5 cm papillary grade 1 Ta TCC. According to the AUA Guideline for the management of nonmuscle invasive bladder cancer, the next step is:

A. six weekly instillations of mitomycin C.
B. six weekly instillations of mitomycin C followed by maintenance.
C. a single dose of mitomycin C postoperatively.
D. six weekly BCG instillations.
E. six weekly BCG instillations followed by maintenance.

141. A two-month-old girl with a myelomeningocele closed at birth has a febrile UTI. Videourodynamics demonstrates Grade V/V bilateral VUR, a thick-walled bladder, and leakage around a 5 Fr urethral catheter at 30 ml volume and 50 cm H_20 pressure. The next step is prophylactic antibiotics and:

A. vesicostomy.
B. enterocystoplasty.
C. cutaneous ureterostomy.
D. antimuscarinics.
E. urethral dilation.

142. A 22-year-old primigravida woman in her 28th week of pregnancy develops hematuria and intermittent right flank pain. Ultrasound reveals a 12 mm calculus at the level of the right UPJ. She is afebrile, and a urine culture is sterile. The next step is:

A. hydration and observation.
B. PCNL
C. percutaneous nephrostomy.
D. urethroscopy and laser lithotripsy.
E. ureteral stent.

143. A 23-year-old man with AIDS has a three-day history of painful right testicular swelling. The testis is diffusely swollen with a hard lesion in the upper pole. After two weeks of oral antibiotic therapy, the tenderness has resolved but the mass persists. Ultrasound of the scrotum shows a 1.5 cm mixed echogenic mass in the right testicle and a normal left testicle. Serum tumor markers and abdominal CT scan are normal. The next step is:

A. radical inguinal orchiectomy.
B. continue antibiotics and re-evaluate in two weeks.
C. PPD skin test.
D. scrotal exploration.
E. aspirate mass for culture.

144. Renovascular hypertension that is likely to respond to angiographic or surgical intervention is characterized by:

A. marked elevation in plasma renin values.
B. elevation of renal vein over inferior vena caval concentrations of renin by at least 25%.
C. elevation of ipsilateral renal vein renin by at least 50% over peripheral and contralateral renal vein renin.
D. elevation of ipsilateral renal vein renin by 50% over peripheral plasma renin, and by 25% over the contralateral renal vein renin.
E. marked elevation of ipsilateral and contralateral renal vein renin as well as peripheral plasma renin.

145. Following a nephrectomy for calculous disease, a patient with a normal contralateral kidney has a urine output of 800 ml/day despite receiving 2000 ml I.V. fluids daily. Blood loss at nephrectomy was replaced. The serum sodium is 125 mEq/l, the serum potassium is 3.5 mEq/l, and the serum osmolality is 270 mOsm/l. The urinary sodium is 20 mEq/l and the urine osmolality is 480 mOsm/l. The most likely cause of these findings is:

A. inappropriate ADH secretion.
B. acute tubular necrosis.
C. adrenal insufficiency.
D. dehydration.
E. exogenous water intoxication.

146. A 21 -year-old man had a right inguinal orchiectomy for a clinical Stage I mixed germ cell tumor. He was observed and seven months later, a 4 cm mass is seen on the abdominal CT scan in the interaorto-caval region. The chest x-ray, beta-hCG, and AFP are normal. The next step is:

A. retroperitoneal radiation.
B. percutaneous biopsy of retroperitoneal mass.
C. platinum based chemotherapy.
D. right modified template RPLND.
E. full bilateral RPLND.

147. A 16-year-old girl with known inflammatory bowel disease develops disabling frequency, urgency, and nocturia. She has recurrent E. coli UTIs. Ultrasound shows mildly dilated upper tracts bilaterally. A CT scan shows a thickened bladder wall. Cystoscopy reveals an inflamed trigone without discrete evidence of a fistula. The most important form of therapy for her is:

A. intravenous antibiotics.
B. temporary diverting colostomy.
C. a temporary suprapubic cystostomy.
D. medical management of the bowel disease.
E. exploratory laparotomy with appropriate bowel resection.

148. The irrigating solution that should be used for diagnostic percutaneous nephroscopy and ureteroscopy is:

A. 1.5% glycine.
B. sterile water.
C. 3% glycine.
D. 0.9% sodium chloride.
E. 0.15% sodium chloride.

149. The serum beta subunit of human chorionic gonadotropin (beta-hCG) may be falsely elevated by cross-reactivity with:

A. inhibin.
B. alpha-fetoprotein (AFP).
C. luteinizing hormone (LH).
D. follicle-stimulating hormone (FSH).
E. gonadotropin releasing hormone (GnRH).

150. A seven-year-old boy has left flank pain and gross hematuria after a bicycle accident. CT scan with contrast reveals multiple cysts of both kidneys and a small left perinephric hematoma. The study most likely to be diagnostic of his underlying problem is:

A. repeat CT scan in two weeks.
B. cranial MRI scan.
C renal ultrasound of parents.
D. MR angiography.
E. VCUG.

Question #1 ANSWER=D

Lisinopril causes a pharmacologic blockade of the renin-angiotensin system. Glomerular-capillary hydraulic pressure is determined by the balance between afferent and efferent vascular tone. Efferent arteriolar constriction serves to maintain an effective filtration pressure and glomerular filtration rate when renal arterial perfusion pressure is reduced. In bilateral renal artery stenosis or in renal artery stenosis of a solitary kidney, settings in which total renal blood flow is fixed, failure to autoregulate filtration rate would lead to elevations of the BUN and creatinine. Since evidence suggests that the renin-angiotensin system is responsible for this autoregulation, blockade by captopril would lead to transient renal insufficiency. None of the other drugs listed would produce this effect.

Goldfarb DA, Nally JV Jr, Schreiber MJ Jr: Etiology, pathogenesis, ,and management of renal failure, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 41, p 1326.

Question #2 ANSWER=E

This patient's clinical presentation is typical of pelvic lipomatosis and does not require tissue diagnosis. Treatment of the mass with radiotherapy or excision has not generally been successful. While there have been occasional reports of successful treatment with chronic antibacterial suppression, this in general has not been a successful approach. Steroid therapy has no role in pelvic lipomatosis. Supravesical diversion may be indicated as the ultimate treatment of choice in this man but the immediate therapy of his renal insufficiency can be accomplished by temporary nephrostomy drainage.

Pais VM Jr, Strandhoy JW, Assimos DG: Pathophysiology of urinary tract obstruction, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 37, pp 1218-1219.

Question #3 ANSWER=B

This patient has an enterovesical fistula due to Crohn's disease. In this disorder, the bladder is indented on the right lateral and/or anterior aspect and air can be seen in the bladder in 90% of cases on CT scan. Carcinoma of the sigmoid colon could cause this picture but the left wall of the bladder would be indented. Carcinoma of the bladder rarely causes enterovesical fistulae. Emphysematous cystitis is a generalized disease involving the entire bladder wall. Clinically significant diverticulitis is unlikely to occur at this patient's age.

Rovner ES: Urinary tract fistula, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 72, p 2353.

Question #4 ANSWER=C

Imipramine has both a strong direct inhibitory action on bladder smooth muscle and a stimulant effect on the bladder outlet. The net result is that it promotes urinary storage by preventing detrusor overactivity and increasing urethral resistance. Phenylpropanolamine, phenylephrine, and ephedrine are sympathomimetic agents. The net result of alpha-adrenergic stimulation is an increase in the resting urethral pressure. On a theoretic basis this should enhance continence due to sphincter abnormalities, but there is no effect on detrusor overactivity. Oxybutynin has antimuscarinic and smooth muscle relaxant effects and has no role in the treatment of stress incontinence. Terazosin would exacerbate this patient's stress incontinence. Bethanechol is a cholinomimetic and would be expected to increase or aggravate detrusor overactivity.

Resnick NM, Yalla SV: Geriatric incontinence and voiding dysfunction, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 71, p 2318.

Question #5 ANSWER=B

Microscopic examination of the urine is the most rapid and inexpensive means to diagnose UTIs and determine the response to therapy. It provides useful information concerning the likely invaders and whether cultures and susceptibility tests might be needed. The urine may be examined with or without staining and with or without centrifugation, depending on the expertise of the examiner. Unstained specimens are useful for rapid diagnosis. Gram stains provide more reliable information about the potential pathogen.

Kunin CM: URINARY TRACT INFECTIONS: DETECTION, PREVENTION AND MANAGEMENT, ed 5. Baltimore, Williams & Wilkins, 1997, pp 310-315.

Gerber GS, Brendler CB: Evaluation of the urologic patient: History, physical examination, and urinalysis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 3, p 108.

Question #6 ANSWER=A

Post transplant lymphomas are most commonly non-Hodgkin and associated with Epstein-Barr virus infection. The reported incidence ranges from 0.8% to 15%, and varies with the type of immunosuppression utilized. These tumors may respond to drastic reduction or withdrawal of immunosuppression. Standard chemotherapy and irradiation are not generally effective and may exaggerate the degree of immune compromise. Treatment with anti-viral medications such as gancyclovir may be beneficial. Nephrectomy may be necessary, but is not the initial treatment.

Sahadevan M, Kasiske BL: Long-term management and complications, in Danovitch GM (ed): HANDBOOK OF KIDNEY TRANSPLANTATION, ed 4. Philadelphia, Lippincott Williams & Wilkins, 2004, chap 9, pp 268-270.

Question #7 ANSWER=A

Glomerular changes are the last to occur with hydronephrosis. With long term obstruction, other more distal components of the kidney are destroyed first.

Pais VM Jr, Strandhoy JW, Assimos DG: Pathophysiology of urinary tract obstruction, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 37, p 1205.

Question #8 ANSWER=C

Recently, a nonapeptide, termed the anti-proliferative factor, was found to be the best discriminator of all the markers tested to discriminate between interstitial cystitis and normal controls. Future strategies at diagnosing and treating interstitial cystitis may revolve around this unique molecule.

Erickson DR, Xie SX, Bhavanandan VP, et al: A comparison of multiple urine markers for interstitial cystitis. J UROL 2002;167:2461-2469.

Keay SK, Szekely Z, Conrads TP, Veenstra TD, Barchi JJ Jr, Zhang CO, Koch KR, Michejda CJ: An antiproliferative factor from interstitial cystitis patients is a frizzled 8 protein-related sialoglycopeptide. PROC NATL ACAD SCI USA 2004;101:11803-11808.

Question #9 ANSWER=A

An unrecognized injury to the pancreas may result in a pancreatic fistula. These are usually accompanied by symptoms of pancreatitis with wound drainage of fluid with a high pH and amylase content. Radiologic studies will usually show fluid in the retroperitoneum. When drained adequately, the tract will usually heal spontaneously, but hyperalimentation may be required. Surgical exploration is not yet indicated. A medium chain triglyceride, low fat diet would be useful in the setting of chylous ascites which is characterized by milky fluid high in fat content.

Novick AC: Open surgery of the kidney, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 50, pp 1718-1719.

Question #10 ANSWER=E

Improved erections with sildenafil treatment were noted in 70% of men with organic erectile dysfunction and in over 80% of men with psychogenic erectile dysfunction. When the response is stratified by specific disease states, the best response rates are noted in the spinal cord injury group (83%). The response rates for the other groups range from 50-70%.

Lue TF, Broderick GA: Evaluation of nonsurgical management of erectile dysfunction and premature ejaculation, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 22, p 775.

Question #11 ANSWER=D

The mechanistic defect in type 1, or distal renal tubular acidosis is the inability of the distal nephron to maintain a proton gradient between tubular fluid and serum. Hallmarks of distal renal tubular acidosis are a hypokalemic, hyperchloremic non-anion gap metabolic acidosis with a urinary pH consistently above 6. Up to 70% of adults with distal renal tubular acidosis have kidney stones, with the most frequent composition calcium phosphate, although oxalate and struvite stones are also observed. Approximately 80% of patients are women. Stone formation results from hypercalciuria, hypocitraturia and high urinary pH.

Pearle MS, Lotan Y: Urinary lithiasis: Etiology, epidemiology, and pathogenesis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 42, p 1380.

Question #12 ANSWER=E

Urethral recurrence after neobladder is an uncommon but troublesome complication best treated with urethrectomy and some form of urinary diversion. The Studer neobladder affords a reasonable solution to this problem since the non-intussuscepted afferent limb may be detached from the neobladder and converted to a standard ileal loop. A transverse colon conduit would require ureteral reimplantation and continent cutaneous diversion while an operation would have a greater complication rate in an older, previously operated upon patient. Local therapy is inadequate.

Stein JP, Skinner DG: Orthotopic urinary diversion, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 82, p 2613.

Question #13 ANSWER=E

If urethral perforation occurs during dilation, it is best to abandon the procedure, divert the urine with a urethral catheter, and return at a later date. If the contralateral prosthesis has

already been placed and there is no septal perforation, then it may be left in place. The urine should be diverted. Urethral repair would be difficult and is unnecessary.

Montague DK: Prosthetic surgery for erectile dysfunction, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 23, p 797.

Question #14 ANSWER=E

Absorptive hypercalciuria may be dietary independent, dietary dependent or secondary to a phosphate renal leak. While patients with dietary dependent hypercalciuria may respond to a restricted calcium diet, calcium restriction in patients with dietary independent hypercalciuria may increase urinary oxalate. General recommendations for dietary independent absorptive hypercalciuria include hydration, and restriction of dietary sodium and protein. Thiazides increase calcium resorption in the distal nephron, reducing urinary calcium, and potassium citrate prevents hypokalemia and hypocitraturia. Allopurinol is not indicated unless there is hyperuricosuria.

Pak CY, Heller HJ, Pearle MS, Odvina CV, Poindexter JR, Peterson RD: Prevention of stone formation and bone loss in absorptive hypercalciuria by combined dietary and pharmacological interventions. J UROL 2003;169:465-469.

Pietrow PK, Preminger GM: Evaluation and medical management of urinary lithiasis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 43, p 1418.

Question #15 ANSWER=B

Early hydronephrosis in this patient suggests recurrent tumor. CT scan and urinary cytology is the best approach to assessing the recurrent cancer in this patient. Urinary cytology from the conduit will be positive with a high grade tumor in greater than 80% of cases and is therefore the next test, as the patient has already had a CT urogram. If urinary cytology is positive, appropriate cancer therapies should be initiated. Assuming the cytology is negative, loopogram, loop endoscopy, and percutaneous nephrostomy can be performed later to aid in surgical planning.

Dahl DM, McDougal WS: Use of intestinal segments in urinary diversion, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 80, p 2534.

Question #16 ANSWER=C

HIV mainly attacks cells with the CD4 protein on it. In the human, this is the T helper cell. HIV may then infect other cells but it infects the T helper cells first and replicates within it.

Krieger JN: Urologic implications of AIDS and HIV infection, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 12, p 389.

Question #17 ANSWER=A

The MRI scan shows a dilated uterus with no evidence of the vaginal canal consistent with vaginal agenesis. In patients with an imperforate hymen the vaginal canal would be dilated. Androgen insensitivity syndrome would show an absent uterus. The MRI scan does not show an ovarian mass or cyst. Anterior myelomeningocele would not effect menstruation and the spine is normal on this patient's MRI scan. Reconstruction can be complex in complete vaginal agenesis especially when the cervix is also absent.

Rink R, Kaefer M: Surgical management of intersexuality, cloacal malformation, and other abnormalities of the genitalia in girls, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 129, pp 3832-3835.

Question #18 ANSWER=A

A mass with Hounsfield units between negative 30 and negative 140 is characteristic of an adrenal myelolipoma. These tumors are benign and are composed of lipid and myeloid tissue. No additional therapy or evaluation is required. As the tumor is benign and it carries no increased risk of spontaneous hemorrhage, no additional radiologic or clinical follow-up is required.

Vaughan ED Jr, Blumenfeld JD: Pathophysiology, evaluation, and medical management of adrenal disorders, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 53, pp 1838-1840.

Question #19 ANSWER=B

The principal effect of estrogens is the suppression of LH released from the pituitary, but they also increase the synthesis of sex hormone binding globulin in the liver, thereby, decreasing the amount of bioavailable testosterone. The effect at the level of the anterior pituitary is one of interference with the normal negative feedback mechanism.

Veltri R, Rodriguez R: Molecular biology, endocrinology, and physiology of the prostate and seminal vesicles, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 85, p 2685.

Question #20 ANSWER=B

Conditions that increase sex hormone binding globulin levels include anorexia, hyperthyroidism, and cirrhosis. Men with these diseases may have normal bioavailable testosterone with decreased total testosterone. Common clinically available assays for free testosterone are inaccurate, and in the absence of an equilibrium dialysis assay for free testosterone, bioavailable testosterone is best calculated from serum albumin.The semen analyses reveal normal volumes, near normal motilities and low sperm densities. With normal volumes, retrograde ejaculation and ejaculatory ductal obstruction are unlikely, and post-ejaculatory urinalysis and TRUS are not indicated. While both clomiphene citrate and hCG will increase serum testosterone levels, clomiphene citrate is the best initial therapy due to the cost of hCG administration. Prior to therapy, accurate assessment of bioavailable testosterone is necessary in a patient with comorbidities that may alter sex horomone binding globulin.

Sokol RZ, Swerdloff RS: Endocrine evaluation, in Lipshultz LI, Howards SS (eds): INFERTILITY IN THE MALE, ed 3. St. Louis, Mosby Year-Book Inc, 1997, chap 11, p 211.

Question #21 ANSWER=C

Small (< 3 cm) residual masses after chemotherapy for advanced seminoma rarely (< 10%) contain residual viable tumor. Moreover, surgical resection is technically difficult due to severe fibrosis, and often incomplete. The recommended management for this situation is observation with serial physical exam, serum markers, and CT scans. Recently, it has been suggested the PET scanning can aid in determining if surgical resection of a post-chemotherapy retroperitoneal mass is indicated in seminoma patients. This management should be distinguished from individuals with mixed germ cell tumors or non-seminomatous germ cell tumors in whom RPLND is indicated for the vast majority of residual masses within the retroperitoneum.

Richie JP, Steele GS: Neoplasms of the testis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 29, pp 912-913.

Question #22 ANSWER=A

The prostate forms tremendous amounts of citric acid, almost 100 times higher than other soft tissues. The secretory epithelium of the prostate has a special metabolic ability to form citrate from aspartic acid and glucose. Its role in normal prostatic metabolism or reproduction is unknown. Similarly, the seminal vesicles have an increased capacity for fructose production. This production of fructose is the product of glucose metabolism by aldose reduction to sorbitol and a ketone reduction to form fructose.

Veltri R, Rodriguez R: Molecular biology, endocrinology, and physiology of the prostate and seminal vesicles, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds):

CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 85, p 2716.

Question #23 ANSWER=B

Medical therapy to prevent stone recurrence is indicated in patients with recurrent urolithiasis and first episode urolithiasis associated with a high risk of recurrence, e.g., family history, gout, chronic UTI's, nephrocalcinosis and bone/GI disease. High oral fluid intake with restriction of protein and sodium are the cornerstones of therapy. Dietary calcium restriction is inappropriate and may cause osteoporosis. Increased dietary citrus fruits, and natural fiber cereals are recommended.

Pietrow PK, Preminger GM: Evaluation and medical management of urinary lithiasis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 43, p 1413.

Question #24 ANSWER=B

Ureteroarterial fistulas are rare with a reported mortality of nearly 40%. Thus, observation is not appropriate. Risk factors associated with the development of ureteroarterial fistulas include pelvic surgery, pelvic malignancy, pelvic irradiation, pelvic vascular disease and chronic ureteral intubation. Diagnosis is difficult in the absence of active bleeding. Despite the hemorrhage that accompanies these lesions, standard arteriography is frequently falsely negative. Still, arteriography may establish the diagnosis and then the fistula can be occluded with common iliac artery embolization followed by arterial bypass grafting. Provocative arteriography has been reported to demonstrate the fistula in almost all of cases. When clinical suspicion remains strong despite a negative arteriogram, exploratory laparotomy may be necessary to confirm the diagnosis and treat the condition. Immediate exploration is ill advised without a clear etiology of the bleeding, which will be poorly assessed with CT imaging. Nephrectomy is not indicated as the kidney is not the source of bleeding.

Rodriguez L, Payne CK: Management of urinary fistulas, in Taneja SS, Smith RB, Ehrlich RM (eds): COMPLICATIONS OF UROLOGIC SURGERY: PREVENTION AND MANAGEMENT, ed 3. Philadelphia, WB Saunders Co, 2001, pp 186-203.

Question #25 ANSWER=C

This patient has urinary incontinence secondary to detrusor overactivity. Urodynamics suggest a component of impaired detrusor contractility as her detrusor contraction pressures are low and the PVR is high. The best initial treatment is prompted voiding with the goal of having the patient void prior to one of the involuntary contractions. Antimuscarinics should probably not be used in this situation without CIC since it will likely increase the PVR. When possible, CIC should be avoided in these settings because it adds to the workload of the caregivers. An indwelling catheter is also to be avoided because of long term risks of infection, stone, urethral

erosion, etc. Sacral neuromodulation is technically an option for the treatment of this problem after other conservative therapies have failed.

Resnick NM, Yalla SV: Geriatric incontinence and voiding dysfunction, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 71, p 2314.

Question #26 ANSWER=C

The exotoxins produced by some bacteria can initiate septic shock, but in most cases the bacteria cell wall components are primarily responsible for the development of septic shock. Bacterial cell wall components activate numerous humoral pathways and macrophages and other cells involved in the inflammatory process. The main initiator of gram-negative bacterial septic shock is endotoxin, an lipo-polysaccharide component of the bacterial outer membrane. Circulating endotoxin may be a predictor of poor clinical outcome, but the levels of endotoxin required to trigger septic shock vary greatly.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 8, p 287.

Question #27 ANSWER=D

The patient has a Stage II penile cancer with invasion of the corpora that is associated with a much higher incidence of positive lymph nodes. Although the lymph node has decreased in size, it is still palpable after six weeks and deserves excision. Since this patient is at high risk for nodal disease, neither a negative needle aspiration nor a negative sentinel node biopsy should dissuade one from lymphadenectomy. Among patients found to have unilateral positive groin nodes, a bilateral lymphadenectomy is indicated due to the high rate of bilateral disease. By comparison, patients who present with unilateral adenopathy beyond one year are treated with ipsilateral lymphadenectomy.

Pettaway CA, Lynch DF Jr, Davis JW: Tumors of the penis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 31, pp 974-976.

Question #28 ANSWER=E

Early after continent urinary diversion, many patients misinterpret distension of the pouch due to urine and mucus as diffuse abdominal pain. This patient's KUB, normal WBC, normal bowel sounds, and lack of fever do not suggest obstruction or leakage from the bowel reanastomosis or the urinary pouch. The first and simplest measure is to catheterize and drain the pouch to determine if the symptoms are relieved. Only if the pain persists are some or all of the other measures necessary to exclude other postoperative complications.

Stein JP, Skinner DG: Orthotopic urinary diversion, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 82, p 2613.

Question #29 ANSWER=B

This is a typical clinical presentation of delayed hemorrhage from vascular pseudoaneurysm owing to arterial injury during PCNL. A similar injury can occur during partial nephrectomy. The reported incidence of serious arterial injuries in association with percutaneous renal surgery, including arteriovenous fistulas, pseudoaneurysms, and lacerations, ranges from 0.9% to 3%. The diagnosis is presumptive, and therefore therapeutic rather than diagnostic interventions are indicated. Most patients require superselective embolization of bleeding arteries under angiographic control, which is very effective at controlling hemorrhage and preserving renal function. The small number of patients whose bleeding is refractory to embolization may require surgical exploration.

Lingeman JE, Matlaga BR, Evan AP: Surgical management of upper urinary tract calculi, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 44, p 1500.

Question #30 ANSWER=B

In a study of 184 radical prostatectomies from previously untreated patients, Bostwick et al found intense cytoplasmic epithelial immunoreactivity for PSMA (prostate specific membrane antigen) in every prostate cancer. The most extensive and intense staining for PSMA was observed in high grade carcinoma (Gleason primary pattern 4 or 5) with immunoreactivity in virtually every cell. Studies have shown that individual cells in poorly differentiated carcinoma produce less PSA than cells in well differentiated and moderately differentiated carcinoma and also normal prostate epithelium.

Bostwick DG, Pacelli A, Blute M, et al: Prostate specific membrane antigen expression in prostatic intraepithelial neoplasia and adenocarcinoma. CANCER 1998;82:2256-2261.

Veltri R, Rodriguez R: Molecular biology, endocrinology, and physiology of the prostate and seminal vesicles, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 85, pp 2721-2722.

Question #31 ANSWER=A

Autonomic dysreflexia is associated with spinal cord injuries at T6 and higher. Symptoms commonly include palpitations, headache, facial flushing and hypertension. It is caused by stimuli below the level of the spinal cord injury precipitating an exaggerated sympathetic

response. Treatment should include immediate removal of the stimulus if possible. Calcium channel blockers, alpha adrenergic antagonists and chlorpromazine can be used to treat this condition. The other injuries do not typically cause autonomic dysreflexia.

Wein AJ: Lower urinary tract dysfunction in neurologic injury and disease, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 59, p 2026.

Question #32 ANSWER=B

The use of fluoroscopic imaging in urological surgery requires a basic knowledge of radiation protection principles so that the dose to the patient, physician, and ancillary staff can be minimized. It is important to remember that with an increase in patient size the dose rate will be greater and accumulate faster. In terms of manipulating the operational factors in fluoroscopy, there is generally a trade off in terms of image quality and radiation dose. Increasing the tube current results in greater image quality and increased dose to the patient and staff. Increasing the tube kilovoltage diminishes image quality (less contrast) but is usually associated with less radiation dose if the tube current is appropriately reduced. Decreasing the image intensifier to skin distance usually increases image quality depending on focal spot size and decreases the dose to the patient without significantly changing the dose to staff. Removing the grid decreases image quality as well as the radiation dose to patient and staff. Increasing the source to skin distance usually improves image quality and decreases the dose to the patient without significantly changing the dose to staff.

Geise RA, Morin RL: Radiation management in uroradiology, in Pollack HM, McClennan BL (eds): CLINICAL UROGRAPHY, ed 2. Philadelphia, WB Saunders Co, 2000, vol 1, chap 3, pp 13-18.

Question #33 ANSWER=C

Approximately 10-20% of patients who have bilateral adrenalectomy for Cushing's syndrome later develop pituitary tumors, almost always chromophobe adenomas (Nelson's syndrome). Progressive hyperpigmentation, headache, and visual disturbances are due to the expanding adenoma that is best seen by cranial MRI. The hyperpigmentation is due to high serum levels of melanocyte stimulating hormone.

Vaughan ED Jr, Blumenfeld JD: Pathophysiology, evaluation, and medical management of adrenal disorders, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 53, pp 1836-1837.

Question #34 ANSWER=A

Kaposi's sarcoma is a rare neoplasm of endovascular cells that is seen in men of Mediterranean descent, HIV infected patients, and those on immunosuppression. The lesions are associated with the human herpes virus 8. The lesions are violaceous to light brown. They can cause venous and lymphatic obstruction resulting in local edema.

Link RE: Cutaneous diseases of the external genitalia, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 13, p428.

Question #35 ANSWER=B

Hyperprolactinemia is a common result of hemodialysis. Physical signs of this condition include diminished libido, erectile dysfunction, infertility and gynecomastia. Treatment with cabergoline or bromocriptine reverses the osteoporosis and low testosterone improving libido and erectile dysfunction.

Patel MP, Carson CC: Epidemiology, anatomy, physiology and treatment of erectile dysfunction in chronic renal failure patients. ADV REN REPLACE THER 1999;6:296-309.

Sigman M, Jarow JP: Male infertility, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 19, p 637.

Question #36 ANSWER=C

Approximately 50% of patients with multi-organ metastases from renal cell carcinoma exhibit evidence of skeletal involvement. It has been estimated that between 15% and 30% of such skeletal lesions are solitary. Eighty percent of skeletal metastases occur in the axial skeleton, thoracic/lumbar spine, and pelvis. When long bones are involved, only the proximal portions are characteristic targets for metastatic disease. Surgical treatment of bony metastases is indicated for weight-bearing bones with lytic lesions greater than 3 cm. Internal stabilization or replacement of the destroyed periarticular segment often results in significant pain relief and tremendously improves the patient's quality of life.

Lifeso RM, McGrath BE: Orthopaedic management of metastases in genitourinary cancer, in Raghavan D, Scher HI, Leibel SA, Lange PH (eds): PRINCIPLES AND PRACTICE OF GENITOURINARY ONCOLOGY. Philadelphia, Lippincott-Raven Publishers, 1997, chap 12, pp 146-147.

D'Amico AV, Crook J, Beard CJ, Deweese TL, Hurwitz M, Kaplan I: Radiation therapy for prostate cancer, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 100, p 3029.

Question #37 ANSWER=A

PVR measurement has significant intra-individual variability and does not correlate well with other signs or symptoms of lower urinary tract dysfunction. The VA Cooperative Study Group demonstrated that PVR does not predict the outcome of surgery and the majority of men with large residual urine volume did not require surgery during the three year duration of the trial. Men with significant PVRs should be monitored more closely if they elect no therapy. Medical therapy for BPH is indicated in men who have bothersome symptoms that negatively affect quality of life.

Kirby R, Lepor H: Evaluation and nonsurgical management of benign prostatic hyperplasia, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 87, p 2770.

Question #38 ANSWER=C

Mutations in the cystic fibrosis transmembrane conductance regulator gene are responsible for a phenotypic spectrum from overt cystic fibrosis to congenital bilateral absence of the vas deferens. Over 1000 CFTR mutations have been identified and only a portion are detected by routine testing. The man should be assumed to be a CFTR carrier, and his wife needs to be tested to determine the risk of cystic fibrosis in their offspring.

Jarow JP, Sharlip ID, Belker AM, et al: Best practice policies for male infertility. J UROL 2002;167:2138-2144.

Question #39 ANSWER=E

Deletions of the short arm of chromosome 3 are characteristic of clear cell (conventional type) renal cell carcinomas, which are seen in sporadic cases of renal cell carcinoma and those associated with von Hippel-Lindau disease. The short arm of chromosome 3 is the location of the VHL gene. Type 1 papillary renal cancers are associated with mutations of the c-met proto-oncogene located on chromosome 7. Type II papillary renal cancers are associated with mutations of the fumarate hydratase gene located on chromosome 1. Oncocytoma can be seen in mutations of the BHD1 gene located on the short arm of chromosome 17.

Campbell SC, Novick AD, Bukowski RM: Renal tumors, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 47, pp 1584-1585.

Question #40 ANSWER=E

The patient's complaint is stress incontinence. Detrusor overactivity may be asymptomatic and occurs in up to 69% of normal volunteers with ambulatory monitoring. In patients with mixed symptoms when stress symptoms predominate and stress incontinence is objectively demonstrated, surgical repair will alleviate all the symptoms 50-70% of the time. Antimuscarinic therapy may treat her detrusor overactivity but this is not her complaint. Imipramine and pseudoephedrine will improve her stress incontinence but they are not definitive therapy. Transurethral collagen injections are not approved for women with urethral hypermobility. A sling procedure will treat her stress incontinence from her hypermobility and has a 70% chance of alleviating her detrusor overactivity. Transvaginal needle suspensions are inferior to sling procedure for the treatment of stress urinary incontinence.

Nitti VW, Blaivas JG: Urinary incontinence: Epidemiology, pathophysiology, evaluation, and management overview, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 60, pp 2076-2077.

Question #41 ANSWER=B

The most common cause of hypomagnesuria is inflammatory bowel disease associated with malabsorption. Most patients with hypomagnesuria also have hypocitraturia. This loss of inhibitory or complexing activity of magnesium and citrate is responsible for calcium oxalate crystallization in these patients. It has been suggested that magnesium citrate may be reasonable for the treatment of hypomagnesuric calcium nephrolithiasis. The other disorders listed result in recurrent calcium oxalate stones, but as a result of hypercalciuria rather than hypomagnesuria.

Pearle MS, Lotan Y: Urinary lithiasis: Etiology, epidemiology, and pathogenesis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 42, p 1378.

Question #42 ANSWER=D

The distal prostatic ducts are lined by transitional epithelium as in the prostatic urethra. Primary TCC of the prostate accounts for 1.5%-4% of all male urethral cancers.

Brooks JD: Anatomy of the lower urinary tract and male genitalia, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 2, p 62.

Question #43 ANSWER=C

Stress incontinence is the most common type of incontinence after radical prostatectomy. Options include artificial urinary sphincter, sling and periurethral bulking agents. Placement of a sling in this individual (resulting in a fixed urethral resistance) carries a risk of urinary retention due to the Valsalva voiding pattern and the use of cadaveric tissue for male sling does not appear to be as efficacious in the long term as synthetic materials. Periurethral bulking agents are unlikely to provide long term relief of stress urinary incontinence in males. A suprapubic tube will not address the sphincteric incontinence. Sacral neuromodulation is unlikely to have any effect on the sphincteric incontinence.

Nitti VW, Blaivas JG: Urinary incontinence: Epidemiology, pathophysiology, evaluation, and management overview, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 60, p 2077.

Question #44 ANSWER=B

Multi-drug resistant tuberculosis is a form of tuberculosis that is resistant to two or more primary drugs, including isoniazid, pyrazinamide, and rifampin. Multi-drug resistant tuberculosis infection results in increased morbidity, mortality and increased drug-treatment costs. Prevalence rates for multi-drug resistance rates (exceeding 5%) are high in the former Soviet Union, the Baltic States and Peru. Recommended second-line treatment for multi-drug resistant tuberculosis consists of at least 5 drugs including a fluoroquinolone (Ciprofloxacin) and an aminoglycoside (streptomycin, amikacin).

Seaworth BJ: Multidrug-resistant tuberculosis. INFECT DIS CLIN N AM 2002;16:73-105.

McAleer SJ, Johnson CW, Johnson WD Jr: Tuberculosis and parasitic and fungal infections of the genitourinary system, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 14, p 444.

Question #45 ANSWER=E

Minor degrees of separation of circumcision edges are common. Complete separation as described is uncommon. This incision should be considered contaminated in the baby's diaper. Therefore, immediate closure is not recommended. Skin grafts are not indicated because of the contaminated bed and would have a high risk of infection. Since the length of the skin was adequate at the time of circumcision, observation is the best choice. Usually this complication rapidly heals well and nothing further will be necessary. If an undesirable scar develops, it can be revised or grafted electively at a later time.

Elder JS: Abnormalities of the genitalia in boys and their surgical management, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 126, pp 3748-3750.

Question #46 ANSWER=B

The use of sildenafil 25 mg has no impact on the type of alpha-blocker used, its dose or the timing in relationship to sildenafil use. Sildenafil doses greater than 25 mg (50 mg or 100 mg), require separation from any alpha-blocker by a period of four hours. Tadalafil may be used at any dose with tamsulosin 0.4 mg. The concerns about hypotension induced by concomitant use of sildenafil and alpha-blockers also pertains to vardenafil.

http://www.fda.gov/cder/foi/label/2002/20895s11 s15s18lbl.pdf

Lue TF, Broderick GA: Evaluation of nonsurgical management of erectile dysfunction and premature ejaculation, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 22, p 778.

Question #47 ANSWER=A

Although endopyelotomy (antegrade or retrograde) is generally a good choice for salvage of a failed pyeloplasty, incision through an obliterated or intrarenal pelvis may risk significant renal hemorrhage due to incision into renal parenchyma or hilar vessels. Furthermore, repeat open or laparoscopic pyeloplasty will likely be unsuccessful in the face of an intrarenal pelvis. In this case, ureterocalicostomy is the best choice for re-establishing adequate renal drainage.

Hsu THS, Streem SB, Nakada SY: Management of upper urinary tract obstruction, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 38, pp 1247-1249.

Question #48 ANSWER=C

This patient has hyperkalemia and metabolic acidosis due to obstructive uropathy. In obstructive uropathy, a syndrome of distal renal tubular acidosis can occur due to decreased excretion of potassium and hydrogen. This leads to hyperkalemia, impaired urinary acidification, and metabolic acidosis. The term Type IV renal tubular acidosis is often applied to this disorder. Diuretic abuse and persistent vomiting would produce a metabolic alkalosis. Types I and II renal tubular acidosis are both associated with hypokalemia.

McDougal, WS: The kidney, in Gillenwater, JY, Grayhack, JT, Howards, SS, Mitchell, ME (eds): ADULT AND PEDIATRIC UROLOGY, ed 4. St. Louis, Mosby, 2002, chap 14, p 575.

Question #49 ANSWER=B

Parasympathetic postganglionic neurons in the human are located in the detrusor muscle wall as well as in the pelvic plexus. Patients who have cauda equina or pelvic plexus injuries are

neurologically decentralized but may not be completely denervated because of this anatomic arrangement.

Brooks JD: Anatomy of the lower urinary tract and male genitalia, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 2, p 60.

Question #50 ANSWER=A

Most patients with prolactin-secreting pituitary adenomas respond well to medical therapy consisting of either bromocriptine or cabergoline, which blocks release of prolactin from the pituitary gland and often causes regression of the tumor. Cabergoline is more frequently used now than bromocriptine because of the lower side effect profile and less frequent dosing schedule. Surgery is reserved for patients who are unable to tolerate medical therapy.

Sigman M, Jarow JP: Male infertility, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 19, p 637.

Question #51 ANSWER=C

With loss of the distal half of the ureter and the inflammatory process of the ulcerative colitis, a primary anastomosis with a psoas hitch would not be possible. Because of his bowel disease, creating an ileal ureter would not be ideal. A left auto transplantation is possible but not worth the post operative risks. A cutaneous ureterostomy would only be temporizing and require another open procedure. It would be best to perform a transureteroureterostomy. If the left ureter does not reach to the right, the right ureter can be mobilized, passed to the left and reimplanted into the bladder. A nephrectomy should be avoided as the initial management.

McAninch W, Santucci RA: Renal and ureteral trauma, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 39, pp 1287-1292.

Question #52 ANSWER=B

The approach to elderly patients with incontinence should be stepped. Transient causes of incontinence should be addressed first. In this case, it would be most appropriate to eliminate constipation. PSA is unnecessary with a normal rectal exam. Absence of the anal reflex is less significant in elderly patients and invasive testing is not necessary if the symptoms resolve with conservative therapy. Muscarinics may make his symptoms worse and could increase the risk of falling.

Resnick NM, Yalla SV: Geriatric incontinence and voiding dysfunction, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 71, pp 2307-2315.

Question #53 ANSWER=C

Asymptomatic bacteriuria is common in spinal cord injury patients, especially those managed with CIC, and generally does not need to be treated. Symptomatic infections should be treated, but these patients usually do not report the same irritative symptoms as spinal cord intact patients. Symptoms that merit treatment include flank or abdominal discomfort, increased leakage between catheterizations, increased spasticity, and malaise or lethargy. Malodorous urine may be bothersome to the patient but is not an indication for treatment as is increased urinary leakage between catheterizations. The latter indicates a functional impact of the infection while the former is just a social problem. Most patients on CIC will have greater than 100,000 CFU/ml on urinary culture if there is any bacteriuria. Although increasing bladder distention, as might be expected to occur with a decrease in the frequency of catheterization, is a risk factor for UTI in spinal cord injury patients it does not make treatment more or less necessary.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 8, pp 297-299.

Question #54 ANSWER=C

Furosemide (Lasix) is a loop diuretic. Loop diuretics act mainly by inhibiting the Na+-K+-2Cl- cotransport system in the thick ascending limb of Henle's loop. This results in inhibiting sodium reabsorption and produces a solute diuresis.

Eades SK, Christensen ML: The clinical pharmacology of loop diuretics in the pediatric patient. PEDIATR NEPHROL 1998;12:603-616.

Question #55 ANSWER=B

The patient is bothered by his symptoms and the very short intravaginal ejaculatory latency time suggests that the patient warrants treatment. The local anesthetic of choice is lidocaine/prilocaine. The absence of a regular partner likely renders sex therapy ineffective. The first line pharmacologic treatment of premature ejaculation is selective serotonin reuptake inhibitors (SSRI). Bupropion is not an SSRI. The use of SSRI is best commenced with daily use and it appears that fluoxetine, sertraline and paroxetine are of approximately similar efficacies. While there is not much literature on on-demand use of SSRI it is generally believed that the daily dosing is more effective.

Montague DK, Jarow J, Broderick GA, et al: AUA guidelines on the pharmacologic management of premature ejaculation. J UROL 2004;172:290-294.

Question #56 ANSWER=B

Direct injury to the penile urethra is usually best managed with primary surgical repair. In contrast, partial injuries to the posterior urethra will usually heal well over a urethral catheter if one can be placed atraumatically. While extraperitoneal bladder injuries can usually be managed by urethral catheter drainage of the bladder, indications for primary surgical closure of the bladder and placement of a suprapubic cystostomy include co-existing open pelvic fracture, patients undergoing laparotomy or open surgical repair of pelvic fracture, rectal perforation, and bone fragment projecting into the bladder. Intraperitoneal ruptures require primary surgical exploration and repair.

Morey AF, Rozanski TA: Genital and lower urinary tract trauma, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 83, pp 2657-2661.

Question #57 ANSWER=B

The most likely diagnosis in this fetus is posterior urethral valves based upon male sex, bilateral hydronephrosis, and a thick walled bladder. The clinical outcome of a child with severe posterior urethral valves is most specifically predicted by the presence or absence of oligohydramnios and when the onset of oligohydramnios was noted to occur. Increased renal echogenicity alone is not predictive, although in the setting of oligohydramnios, it is a poor prognostic indicator. Bladder dilation is not a good prognostic indicator. Urinary electrolytes have been shown to be useful as an indicator of renal salvageability only in the setting of oligohydramnios and in early gestation (18 to 24 weeks). A perinephric urinoma does not predict a poor outcome.

Peters CA: Perinatal urology, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 109, p 3186.

Question #58 ANSWER=E

BPH is a histological diagnosis. This patient has not had a biopsy. Bladder outlet obstruction is a urodynamic diagnosis made on the basis of the relationship between pressure and flow. The poor flow rate in this case may be due to either detrusor underactivity or bladder outlet obstruction and is not diagnostic of either entity. Detrusor overactivity and detrusor underactivity are a urodynamic diagnosis that cannot be made in the absence of a pressure-flow urodynamic study. LUTS is a generic term describing lower urinary tract symptoms and does not imply an underlying pathology or pathophysiology.

Roehrborn C, McConnell J, Barry J, et al: AUA guideline on the management of BPH. 2003. www.auanet.org/guidelines/main_reports/bph_management/preface_toc.pdf

Question #59 ANSWER=E

Premenopausal women with recurrent cystitis (> 3 infections/year) can be managed with continuous antimicrobial prophylaxis, post-coital prophylaxis or patient-administered self-treatment. Many antibiotics are used for continuous prophylaxis. Trimethoprim, trimethoprim-sulfamethoxazole and fluoroquinolones work by reducing vaginal colonization with uropathogens while other antibiotics, e.g., nitrofurantoin, cephalexin, sulfa, work by intermittently sterilizing the urine. Drugs in the former category increase the risk of fungal vaginitis because of their effect on the commensal bacterial (uropathogens, lactobacilli) in the vagina.

Stapleton A, Stamm WE: Prevention of urinary tract infection. INFECT DIS CLIN N AM 1997;11:719-733.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 8, pp 262-263.

Question #60 ANSWER=D

The immediate repair of a UPJ obstruction is advised in this child because the function in the right kidney is significantly decreased. Neither delay nor removal of this kidney is appropriate since the functional capacity may improve after relief of obstruction, particularly in this age group. Temporary nonintubated cutaneous diversion may provide an acceptable alternative in the very ill or septic infant (not the case here). Prolonged nephrostomy drainage is not recommended in young infants.

Carr MC, El-Ghoneimi A: Anomalies and surgery of the ureteropelvic junction in children, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 115, pp 3365-3369.

Question #61 ANSWER=A

A small wound dehiscence is likely to heal over time. Since the patient is asymptomatic, immediate surgical intervention is not necessary. Monofilament slings with large pore sizes permit in-growth of fibroblasts and intercalation of macrophages that promote healing. Topical estrogen cream may be beneficial in this postmenopausal female in improving tissue quality and healing. Explantation of the sling is not indicated at this juncture. Timing of primary wound closure is controversial, but drains are not recommended.

Dmochowski R, Scarpero H, Starkman J: Tension-free vaginal tape procedures, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 68, p 2269.

Question #62 ANSWER=C

The cervical mucus is a major barrier to sperm that are poorly motile in the oligospermic man. From a naive viewpoint it would seem that bypassing this biological barrier by intrauterine insemination would be highly successful form of therapy for the subfertile man. Motility and transport though the cervical mucus represent only a small portion of the many complex functions of which sperm must be capable for fertilization and early embryonic development to occur. Therefore, it is not surprising that intrauterine insemination is not effective universally in couples with male factor infertility. The placement of sperm directly into the uterine cavity, carefully timed to ovulation, will not compensate for acrosomal defects and abnormalities of sperm-egg interaction, which are common in men with oligospermia. Nevertheless, sperm processing and intrauterine insemination can have an appropriate role in the management of carefully selected subfertile couples. It is an ideal form of therapy for cervical factor infertility and for men with retrograde ejaculation and significant semen volume abnormalities. Men with significant levels of antisperm antibodies and fewer than 2 million motile sperm after washing are not likely to achieve conception with intrauterine insemination.

Sigman M, Jarow JP: Male infertility, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 19, p 651.

Question #63 ANSWER=C

Of the tumors listed, neuroblastoma is the only one that is frequently associated with spontaneous regression. Autopsy studies show a much higher rate of incidental neuroblastoma than is seen clinically. Because of the regression (or maturation to ganglioneuroma) some infants with neuroblastoma should not be treated. This is particularly true for those with Stage IV-S, characterized by multiple sites of metastases, including bone marrow, liver and/or skin lesions.

Ritchey ML, Shamberger RC: Pediatric urologic oncology, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 130, pp 3870-3877.

Question #64 ANSWER=A

The major clotting protein in semen has been termed semenogelin, which has been shown to be the seminal vesicle-specific antigen. These clotted proteins serve as the substrate for PSA which liquefies the semen. Calcium-binding substances, such as sodium citrate, and heparin

do not inhibit the coagulation. Blood clotting proteins such as prothrombin, fibrinogen, and factor XII are not present in semen.

Veltri R, Rodriguez R: Molecular biology, endocrinology, and physiology of the prostate and seminal vesicles, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 85, p 2725.

Question #65 ANSWER=E

Forniceal extravasation is usually associated with a small distal ureteral calculus. These patients should be treated no differently than others with ureteral stones. Intervention should be undertaken when there is an associated fever, nausea/vomiting, or unrelenting pain. Otherwise, conservative observation is appropriate. The AUA guidelines clearly state that a period of observation awaiting spontaneous passage is appropriate.

Segura JW, Preminger GM, Assimos DG, Dretler SP, Kahn RI, Lingeman FE, Macaluso JN: AUA guidelines managing patients with ureteral stones. J UROL 1997;158:1915-1921.

Dyer RB, Zagoria: Radiological evaluation of ureteral calculi and acute ureteral obstruction, Section 7, Calculous disease, Ramchandani P (ed): in Pollack HM, McClennan BL (eds): CLINICAL UROGRAPHY, ed 2. Philadelphia, WB Saunders Co, 2000, vol 2, chap 61, p 228.

Question #66 ANSWER=D

Normal infantile voiding patterns often include frequent small volume, and incomplete voids. Using serial ultrasound, documenting the time and number of voids in neonates and carefully weighing their diapers has confirmed these findings. In the absence of other clinical findings, no specific evaluation should be undertaken. Renal and bladder ultrasound, although non-invasive, is not indicated. The remaining tests are invasive and not indicated in a normal infant.

Yeung CK, Sihoe JD, Bauer SB: Voiding dysfunction in children: Non-neurogenic and neurogenic, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 123, pp 3604-3606.

Yeung CK, Godley ML, Ho CK, et al: Some new insights into bladder function in infancy. BRI J UROL 1995;76:235-240.

Question #67 ANSWER=C

Since turning off the device had no impact on pain, reprogramming it is unlikely to be of any benefit. The device may not need to be completely explanted at this point. A local exploration

may obviate a seroma, or perhaps improper location. Relocation would be recommended only if local exploration revealed no abnormalities, and the location was felt to be causative.

Vasavada SP, Rackley RR: Electrical stimulation for storage and emptying disorders, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 64, pp 2160-2161.

Question #68 ANSWER=C

Intraoperative IVP is performed in unstable trauma patients who can't undergo a radiographic evaluation in the emergency room. A film is taken ten minutes after contrast is administered intravenously. A 2 ml/kg dose of contrast material is recommended for this study.

Morey AF, McAninch JW, Tiller BK, Duckett CP, Carroll PR: Single shot intraoperative excretory urography for the immediate evaluation of renal trauma. J UROL 1999;161:1088¬ 1092.

Question #69 ANSWER=C

New hydronephrosis after artificial urinary sphincter (AUS) placement is a well described complication. It is usually due to decreased bladder compliance that was unrecognized at the time of AUS placement or has developed subsequent to and as a result of the outlet resistance from the AUS. It is essential to monitor bladder compliance following AUS placement. A changing neurologic lesion (such as tethered cord) is unlikely to occur in a patient who has completed linear growth.

Adams MC, Joseph DB: Urinary tract reconstruction in children, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 124, p 3668.

Question #70 ANSWER=D

Rates of incontinence can be high in patients undergoing TURP following brachytherapy (at least 18%). The presence of obstructive symptoms at the time of TURP, and a period of at least two years since brachytherapy are associated with a greater likelihood of incontinence. Treatment with Lupron, prostate size, pretreatment IPSS, dosage of brachytherapy, and pre-treatment PSA do not seem to affect the likelihood of incontinence.

Kollmeier MA, Stock RG, Cesaretti J, Stone NN: Urinary morbidity and incontinence following transurethral resection of the prostate after brachytherapy. J UROL 2005;173:808-812.

Question #71 ANSWER=C

Although hyperuricosuria, low urine pH and low urine volume are all important contributors to uric acid stone formation, a persistently acid urine (pH < 5.5) is the most important determining factor for uric acid stones. Although hyperuricemia is the hallmark of primary gout, not all patients with uric acid stones have either hyperuricemia or gout. Renal tubular acidosis is associated with high, rather than low, urine pH, hyperchloremia, and hypokalemia.

Shekarriz, B, Stoller, ML: Uric acid nephrolithiasis: Current concepts and controversies. J UROL 2002;168:1307-1314.

Question #72 ANSWER=D

Skin grafts and placement of the testicles in the thigh are seldom required when half of the scrotal skin remains. Secondary closure for such a recent injury is unnecessary. The best choice for management is a tetanus immunization if he is not up to date, antibiotics, debridement, and primary closure with drainage. If grafting is required, a meshed split thickness graft is preferable because the meshing allows exudate to escape and gives improved cosmesis. Thigh pouches are rarely required as wet to dry dressings of the exposed gonads can be effective in critically ill patients until reconstruction is feasible.

Morey AF, Rozanski TA: Genital and lower urinary tract trauma, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 83, p 2655.

Question #73 ANSWER=C

Diuresis induces ureteral dilation that is the result of elongation and an increase in diameter of the ureter. If prolonged, some hypertrophy of ureteral muscle occurs. Stress relaxation is an intrinsic property of smooth muscle in vitro in response to acute stretch. Treatment of the prolonged diuresis may result in reversal of the ureteral dilation.

Weiss RM: Physiology and pharmacology of the renal pelvis and ureter, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 55, p 1909.

Question #74 ANSWER=D

Studies into molecular mechanisms of stone formation have identified gene mutations that can affect several organ systems culminating in hypercalciuria. Improved understanding of the molecular and genetic causes of stone disease may change the future of stone management. Idiopathic calcium oxalate nephrolithiasis is thought to be a polygenic disorder, one influenced

by several genes. The other entities are monogenic, arising from an abnormality in a single gene.

Holmes RP, Assimos DG, Goodman HO: Genetic and dietary influences on urinary oxalate excretion. UROL RES 1998;26:195-200.

Pearle MS, Lotan Y: Urinary lithiasis: Etiology, epidemiology, and pathogenesis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 42, p 1374.

Question #75 ANSWER=E

The ureter buds from the mesonephric (Wolffian) duct and is absorbed into the bladder base. Incomplete absorption of the upper segment of a duplication may lead to ectopia in those structures of mesonephric origin (seminal vesicle or vas) or into those structures of urogenital sinus origin (bladder, prostatic urethra). Ectopia distal to the verumontanum would not be expected. The development of the distal urethra relates to the development of the penis, not of the urogenital sinus.

Schlussel RN, Retik AB: Ectopic ureter, ureterocele, and other anomalies of the ureter, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 116, p 3383.

Question #76 ANSWER=B

Emission is defined as the deposition of seminal fluid into the posterior urethra by the vasa deferentia and the seminal vesicles. Ejaculation is the forceful expulsion of seminal fluid out the urethral meatus by contraction of the bulbospongiosus and ischiocavernosus muscles. Since the vasa and the seminal vesicles are innervated primarily by the sympathetic nervous system, emission is under control of the sympathetic nervous system. Alpha-adrenergic nerve stimulation causes not only contraction of the seminal vesicles and vasa deferentia but also closure of the bladder neck. Ejaculation is the result of somatic nerve stimulation of the periurethral striated musculature. The parasympathetic nervous system is not directly involved with either emission or ejaculation.

Sheinfeld J, Bartsch G, Bosl GJ: Surgery of testicular tumors, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 30, p 640.

Question #77 ANSWER=D

Breast tenderness and enlargement during hormonal therapy for prostate cancer is due to an altered ratio of serum estrogens and testosterone. Leuprolide inhibits pituitary LH release so there is no rise in serum estrogens. Ketoconazole inhibits androgen and estrogen synthesis.

Bicalutamide inhibits both end organ and central androgen receptors so that both LH and androgen levels increase with loss of negative feedback inhibition.

Nelson JB: Hormone therapy for prostate cancer, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 104, p 3086.

Question #78 ANSWER=D

Enuresis is a common problem in five-year-old children. Diurnal enuresis is present in 7-8%, and nocturnal enuresis in 15%. Pharmacologic management may be considered, but the initial treatment should be timed voiding. This will improve the enuresis and decrease the risk for subsequent infection. If timed voiding is not effective, the patient may be treated with either imipramine or oxybutynin. Since nocturnal enuresis is common at that age and the spontaneous resolution rate is 10-15% per year, treatment with DDAVP® is typically reserved for children over seven years of age. Observation leaves the child wet and is not appropriate.

Canning DA, Nguyen MT: Evaluation of the pediatric urology patient, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 110, pp 3204-3205.

Question #79 ANSWER=C

Nephrotoxicity is the most common side effect of treatment with cyclosporine and has been observed in as many as 50% of patients. This is preventable by monitoring blood levels of cyclosporine with appropriate dose reduction as needed. Cyclosporine nephrotoxicity is usually reversible and occasionally necessitates complete discontinuation of the drug.

Barry JM, Jordan ML, Conlin MJ: Renal transplantation, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 40, pp 1317-1318.

Question #80 ANSWER=C

Transitional cell carcinoma of the bladder during pregnancy is uncommon. Hematuria during pregnancy may be mistaken for antepartum bleeding. Although hematuria is often due to infection, other causes must be considered. Bladder sonography may detect bladder tumors in pregnant women. Although ultrasound is a good screening technique, it is still not reliable and cystoscopy should be considered in all pregnant patients with documented gross hematuria or persistent microscopic hematuria. The cystoscopic findings in this patient are that of a typical papillary low grade tumor. The endoscopic tumor resection should be performed after delivery. Immediate resection under anesthesia might induce uterine contractions. Bladder tumors in this age group almost always are low grade and noninvasive and as such do not require immediate removal.

Messing EM, Catalona WJ: Urothelial tumors of the urinary tract, in Walsh PC, Retik AB, Vaughan ED Jr, Wein AJ (eds): CAMPBELL'S UROLOGY, ed 7. Philadelphia, WB Saunders Co, 1998, chap 77, pp 2329-2382.

Question #81 ANSWER=B

The left renal artery originates from the aorta just lateral and superior to the left renal vein. Identifying the left renal vein as it crosses the aorta provides the best anatomic landmark for the left renal artery. The right renal artery is retrocaval and not a good landmark. The inferior mesenteric artery is caudad to the renal artery. The inferior mesenteric vein is a good landmark for the location of the aorta during emergent exploration. An incision is made medial to the inferior mesenteric vein. This is extended cephalad to the ligament of Treitz. The aortic dissection is carried cephalad to the left renal vein allowing identification of the renal arteries.

McAninch W, Santucci RA: Renal and ureteral trauma, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 39, pp 1278-1280.

Question #82 ANSWER=E

An injury to the vertebral column at L-4 injures the cauda equina and, depending on the extent of neural damage, will produce a loss of motor and sensory fibers to the bladder, pelvic floor, and external sphincter. Detrusor sphincter dyssynergia is produced by suprasacral spinal cord lesions that interrupt the ascending and descending pathways between the sacral spinal cord and the center for reflex detrusor and urethral function in the brain stem. Reflex detrusor function requires sacral root and sacral cord integrity. While an areflexic bladder faces fixed internal sphincter activity, that activity is normal and not truly dyssynergic. Since within the sacral and lumbar canal the nerve roots are intermingled, a lesion that produces detrusor areflexia would be expected to have a similar effect on the external sphincter; hence, the denervation potentials.

Wein AJ: Lower urinary tract dysfunction in neurologic injury and disease, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 59, pp 2024-2025.

Question #83 ANSWER=C

The administration of a single perioperative dose of intravesical chemotherapy after complete TURBT for Ta-T1 TCC of the bladder significantly reduces the rate of tumor recurrence. This has also been summarized in a large meta-analysis in which patients receiving perioperative chemotherapy had a recurrence rate of 36.7% compared to 48.4% with TUR alone. In all studies where benefit was noted the instillation was given within 24 hours, generally either immediately or within six hours following the TURBT. Several randomized trials have

demonstrated significant reductions in recurrence when the intravesical chemotherapy was administered within 24 hours as compared to starting it seven days later. Thus, there is evidence that the instillation should be given on the same day as the TURBT and not later.

Oosterlinck W, Sylvester RJ: Perioperative instillation of chemotherapeutic drugs, in Lerner SP, Schoenberg MP, Sterberg CN (eds): TEXTBOOK OF BLADDER CANCER. Abingdon, Oxon, Taylor and Francis, 2006, chap 29, pp 330-331.

Question #84 ANSWER=D

Normal creatinine excretion at baseline is approximately 20 mg/kg/day. When collecting a 24-hour urine for evaluating stone disease, it is important to index the collection against creatinine, as an incomplete or overcollection would otherwise lead to a false interpretation. It is not possible to determine renal function from urine creatinine alone, since at baseline, the creatinine production and excretion is constant and independent of renal function. To determine glomerular filtration rate, serum and urine creatinine must both be determined.

Pietrow PK, Preminger GM: Evaluation and medical management of urinary lithiasis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 43, p 1408.

Question #85 ANSWER=A

Myalgia (leg, back, buttock pain) occurs in about 10% of men using tadalafil, due to venous congestion of the large muscle of the body and there is no evidence that it is the result of rhabdomyolysis. Its severity is variable; however it is severe enough in some men that the medication needs to be switched to another PDE5 inhibitor. While, statins can cause rhabdomyolysis, in this patient, his long-standing use of the statin without myalgia and the chronological association between the pain and the commencement of the tadalafil suggest that the latter is to blame.

Lue TF, Broderick GA: Evaluation of nonsurgical management of erectile dysfunction and premature ejaculation, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 22, pp 773-778.

Question #86 ANSWER=B

Penetrance for all of the manifestations of VHL is incomplete. Pheochromocytoma is found only in certain families with the VHL syndrome, primarily those with a missense mutation of the VHL gene. All of the other manifestations of VHL are found in most families with the syndrome.

Walther MM, Enquist EG, Jennings SB, et al: Molecular genetics of renal cell carcinoma, in Vogelzang NJ, Scardino PT, Shipley WU, Coffey DS (eds): COMPREHENSIVE TEXTBOOK OF GENITOURINARY ONCOLOGY. Baltimore, Williams & Wilkins, 2000, chap 9, pp 116-128.

Campbell SC, Novick AD, Bukowski RM: Renal tumors, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 47, pp 1585-1587.

Question #87 ANSWER=D

The patient has a classic history for a pheochromocytoma. This includes his age, sex, and symptoms. The normal renal Doppler ultrasound rules out most secondary renal causes of hypertension. The elevated plasma and urine catecholamine levels document biochemical evidence for a pheochromocytoma. Children have an increased incidence of bilaterality, multifocality, and a greater tendency for familial occurrence. MR imaging is the most sensitive study for localizing adrenal and extra-adrenal tumors. Theglucagon stimulation and clonidine suppression tests are used in instances of non-diagnostic plasma and urine catecholamine levels.

Vaughan ED Jr, Blumenfeld JD: Pathophysiology, evaluation, and medical management of adrenal disorders, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 53, pp 1862-1863.

Question #88 ANSWER=C

In patients with inherited retinal disorders such as retinitis pigmentosa, sildenafil use is contraindicated. Sildenafil inhibits PDE-VI expression in the retina and exacerbates visual disturbances. Testosterone supplementation is only indicated in the presence of documented hypogonadism. Yohimbine is not a useful treatment. In the presence of documented arterial insufficiency, a penile prosthesis is the best treatment.

Lue TF, Broderick GA: Evaluation of nonsurgical management of erectile dysfunction and premature ejaculation, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 22, p 777.

Question #89 ANSWER=D

Intravesical BCG is established as the best agent for intravesical therapy for CIS. However, it is contraindicated in immunocompromised patients because of impaired efficacy and an increased risk of infectious complications. The next most effective agent is mitomycin C, which would be the best choice in this clinical circumstance. Valrubicin is only indicated for BCG refractory CIS.

Jones JS, Campbell SC: Non-muscle-invasive bladder cancer (Ta, T1, and CIS), in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 76, pp 2456-2459.

Question #90 ANSWER=C

There is a 13% to 45% incidence of anomalies of the lumbosacral spine in imperforate anus, resulting in 7%-18% incidence of neurogenic bladder. This may first become evident after repair of the anal lesion. Children with imperforate anus should be carefully checked for a neurogenic bladder. The pudendal nerve is not involved in bladder function. The other responses are rare.

Yeung CK, Sihoe JD, Bauer SB: Voiding dysfunction in children: Non-neurogenic and neurogenic, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 123, pp 3647-3648.

Question #91 ANSWER=C

In pregnancy, glomerular filtration rate increases about 50% as full term approaches. This increase in GFR leads to a decrease in the serum BUN and creatinine. Therefore, the normal values for BUN and creatinine are lower in pregnant women than they are in non-pregnant women.

Schaeffer AJ, Schaeffer EM: Infections of the urinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 8, p 290.

Question #92 ANSWER=D

Ureterointestinal stricture can occur early or late after urinary diversion. The first step in management is to rule out disease recurrence. Once it has been established that the stricture is not due to recurrent cancer, the most effective approach to management in this setting is open surgical repair. Although various minimally invasive approaches have been employed, including balloon dilatation, cold knife or laser incision and stent placement, open surgical repair has been consistently shown to be the most effective way of addressing this problem, particularly in the setting of a longer stricture and decreased renal function. Minimally invasive approaches may be effective for shorter strictures (1-2 cm or less). Regardless of length, these strictures are usually due to devascularization of the distal ureter and extreme angulation of the left ureter at the level of the inferior mesenteric artery.

Dahl DM, McDougal WS: Use of intestinal segments in urinary diversion, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 80, p 2534.

Question #93 ANSWER=A

The most frequent error in the diagnosis of fetal uropathy is in distinguishing UPJ obstruction from multicystic dysplastic kidney (MCDK). Since UPJ obstruction and MCDK are a spectrum, all patients with suspected MCDK need to have a confirmatory renal scan to document absence of function. The most sensitive scan is DMSA however a MAG-3 Lasix renogram will also confirm lack of function. Autosomal polycystic kidney disease is characterized by large kidneys greater than two standard deviations above the mean. Ectopic ureterocele is characterized by an upper pole dilated ureter and ureterocele in the bladder. Posterior urethral valves are characterized by a distended bladder and keyhole sign. Finally, on ultrasound a refluxing megaureter has a dilated ureter that is not present in UPJ obstruction.

Peters CA: Perinatal urology, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 109, pp 3191-3194.

Question #94 ANSWER=D

Acquired renal cystic disease (ARCD) occurs in up to 45% of patients with chronic renal failure. Retrospective studies have indicated that renal cell carcinoma may develop in a small percentage (< 10%) of patients with ARCD. For this reason, periodic ultrasound is recommended for patients on chronic dialysis. It is appropriate to consider CT scan, arteriography, or surgical intervention only when the ultrasound suggests a complex cyst or tumor. Both hemodialysis and peritoneal dialysis have been associated with an equivalent incidence of ARCD, and there is no evidence that conversion from one form of dialysis to another influences this disease. Simple cysts in the nondialysis population do not require surveillance.

Glassberg KI: Renal dysgenesis and cystic disease of the kidney, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 114, p 3353.

Question #95 ANSWER=A

Extended core biopsy schemes have been shown to be superior to traditional sextant biopsy in terms of cancer detection. The schemes generally expand from the traditional sextant template. In one of the largest studies to compare techniques, a total of 483 consecutive patients referred for an abnormal DRE and/or PSA 4.0 ng/ml or greater underwent transrectal ultrasound and systematic biopsy. Lateral biopsies of the peripheral zone at the base and mid gland were added to the routine sextant biopsy regimen for a total of 10 systematic biopsies of the peripheral zone. Detection rates of the various regions were assessed. Various biopsy schemes were then created and cancer detection rates were compared. Of the patients, 42% (202 of 483) had cancer on biopsy. Traditional sextant biopsies missed 20%, while a sextant regimen incorporating lateral peripheral zone biopsies of the mid gland and base along with

the apex missed 11% of the cancers. The combination of sextant and lateral peripheral zone biopsies (10-biopsy scheme) detected 194 cancers (96%). The 8 missed cancers were detected by lesion directed (5) or transition zone (3) biopsies. Of the 5 systematic peripheral zone regions the mid lobar base resulted in the lowest and unique cancer detection rates for all stratifications. The unique cancer detection for the traditional sextant sites were as follows: 8.4% apex, 4.0% mid, 1.0% base. For the lateral biopsies, the unique detection rate was 4.5% for the lateral mid and 6.9% for the lateral base. The mid lobar base in essence samples the central zone of the prostate where the fewest cancers would be detected. Thus, eliminating the mid lobar base biopsies from the systematic 10-biopsy peripheral zone regimen resulting in an 8-biopsy peripheral zone regimen decreased detection from 96% to 95%. The 6 systematic biopsies of the peripheral zone are inadequate and a minimum of 8, including the apex, mid lobar mid gland, lateral mid gland and lateral base, should routinely be performed.

Presti JC Jr, Chang JJ, Bhargava V, Shinohara K: The optimal systematic prostate biopsy scheme should include 8 rather than 6 biopsies: Results of a prospective clinical trial. J UROL 2000;163:163-166.

Question #96 ANSWER=E

Lesions apparently representing Wilms' tumor precursors have been recognized for many years. They have been found in 1% of kidneys in infants on postmortem and in 30-40% of kidneys removed for Wilms' tumor. The terminology for these lesions has evolved over the years. These lesions were previously termed persistent nodular renal blastema, Wilms' tumorlet or nephroblastomatosis if there were diffuse lesions. The current preferred term is nephrogenic rest which is defined as foci of abnormally persistent nephrogenic cells that can potentially form a Wilms' tumor. It is has estimated that approximately 1 in 80 nephrogenic rests will develop into a Wilms' tumor.

Ritchey ML, Shamberger RC: Pediatric urologic oncology, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 130, pp 3889-3890.

Question #97 ANSWER=D

Two qualities of radiocontrast agents have been evoked to explain their renal toxicity. First, contrast agents are powerful renal vasoconstrictors and may cause a severe reduction in renal blood flow. Second, in vitro studies have demonstrated that these agents are toxic to renal tubular cells. This toxicity is enhanced by the hypoxia that results from diminished renal blood flow.

Bhayani SB, Siegel CL: Urinary tract imaging: Basic principles, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 4, p 113.

Question #98 ANSWER=B

Careful selection of the optimal site for a stoma is a critically important part of the preoperative evaluation of the patient. The stomal site should avoid the umbilicus, bony prominences, scars, and folds. It should be placed in a region where the flat abdominal skin measures 5-7 cm in both directions. The stoma for an ileal conduit is usually located in the right lower quadrant. Paraplegics, often with abdominal prolapse and wheel-chair existence pose a special problem for stomal site selection. A right lower quadrant site often results in a stoma that is difficult for the patient to see and the stoma and appliance are squeezed between the abdomen and thigh. For this reason, in the paraplegic patient the stoma should always if possible be placed in the upper abdomen. In addition, in all patients the stoma should be brought through the rectus muscle to minimize the risk of peristomal herniation.

Mattos RM, Libertino JA: Complications associated with urinary diversion, continent reservoirs, and neobladders, in Libertino JA (ed), RECONSTRUCTIVE UROLOGIC SURGERY, ed 3. St. Louis, Mosby-Year Book Inc. 1998, chap 43, pp 423-432.

Question #99 ANSWER=B

Although CIC is the treatment of choice for neurogenic bladder patients, in this situation it would be a poor choice. Not only would she potentially be unreliable but there is good possibility that she would physically be unable to catheterize. Therefore, CIC would be contraindicated and augmentation ill-advised. Ureterosigmoidostomy is not an acceptable diversion in the myelodysplastic patient because of the unreliable anal sphincter mechanism. Vesicostomy is usually not an acceptable diversion for the older patient because of the pubic hair and problems with the stoma appliance fit. The colon conduit would be well suited in this clinical situation.

Benson MC, McKiernan JM, Olsson CA: Cutaneous continent urinary diversion, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 81, p 2579.

Question #100 ANSWER=C

Inadvertent entry into the abdominal cavity may occur during placement of an artificial urinary sphincter. In the absence of bowel injury, this is of no consequence and the procedure can be completed as planned. Placement of the reservoir above the rectus abdominis may result in postoperative herniation of this component.

Staskin DR, Comiter CV: Surgical treatment of male sphincteric urinary incontinence: The male perineal sling and artificial urinary sphincter, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 74, p 2400.

Question #101 ANSWER=A

Unfortunately, no prostate is the perfect sphere, ellipse, or prolate sphere, rendering calculations somewhat inaccurate. The most accurate means of volume measurement by ultrasound is planimetry, which allows for variation in shape. In this, the probe is mounted on a stepping device and the signal marched through the gland at defined intervals, usually 3-5 mm. At each interval, the surface area of the prostate image is obtained. Volume is calculated by multiplying the sum of the surface areas by the stepping interval. Because of its superior accuracy, this is the method of choice for brachytherapy treatment planning.

Ramey JR, Halpern EJ, Gomella LG: Ultrasonography and biopsy of the prostate, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 92, pp 2885-2886.

Question #102 ANSWER=E

Approximately 70% of fistulas occurring after needle biopsy of the kidney close spontaneously within 18 months. In the absence of significant related symptoms in such a patient, expectant management is appropriate initially. The clinical manifestations of a renal arteriovenous fistula depend upon the size of the fistula. Congestive heart failure, cardiomegaly, and diastolic hypertension are observed in 50% of symptomatic patients. Hematuria is present in about a third, tachycardia is occasionally found, and a palpable flank mass is very rarely encountered. About 75% of patients have an abdominal bruit.

Novick AC, Fergany A: Renovascular hypertension and ischemic nephropathy, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 36, p 1169.

Question #103 ANSWER=B

Orthostatic hypotension is not a contraindication for alpha-blockers providing the blood pressure change is not associated with postural symptoms. The effectiveness of alpha-blockers is independent of prostate size. All surgical interventions may cause retrograde ejaculation. Finasteride will decrease semen volume.

Kirby R, Lepor H: Evaluation and nonsurgical management of benign prostatic hyperplasia, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 87, pp 2785-2789.

Question #104 ANSWER=B

Patients with a rise in PSA while under the influence of combined androgen blockade may respond to further hormonal manipulations. The removal of anti-androgens, especially

flutamide, may result in decreased PSA in up to 1/3 of patients. The addition of nilutamide, but not flutamide, has been reported to have some secondary activity. Since the patient has just been diagnosed with a DVT, one would want to avoid estramustine in the immediate time period and thus the patient should be treated with ketoconazole and hydrocortisone, a combination that is active in ~50% of patients.

Nelson JB: Hormone therapy for prostate cancer, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 104, p3082.

Question #105 ANSWER=B

When infradiaphragmatic urinary extravasation extends through Buck's fascia, it is limited only by Colles' fascia which attaches posteriorly at the triangular ligament and laterally at the fascia lata of the thigh. Colles' fascia is continuous anteriorly with Scarpa's fascia which extends superiorly to the coracoclavicular fascia. Therefore, both Colles' and Scarpa's fascia limit such an extravasation. Such an extravasation, particularly when associated with infection (periurethral phlegmon), can result in edema and necrosis of the skin of the penis, scrotum, and anterior body wall.

Jordan GH, Schlossberg SM: Surgery of the penis and urethra, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 33, p 1023.

Question #106 ANSWER=D

This 52-year-old man is at risk for renovascular hypertension. Of the captopril modulated testing (PRA and captopril renogram) the renogram is a better test than peripheral PRA. Critical to the performance of these tests is appropriate patient preparation. Ideally, patients should be off all medications for two weeks. This is usually not possible clinically. It is apparent that ACE inhibitors will reduce the sensitivity of testing. Other antihypertensives can be used up to the morning of testing. In this setting, duplex ultrasound will give anatomic information on the renal arteries sufficient to determine the need for angiography.

Novick AC, Fergany A: Renovascular hypertension and ischemic nephropathy, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 36, p 1171.

Question #107 ANSWER=C

Immediate reoperation for fistula closure is not indicated as most fistulae heal with parenteral nutrition. Immediate operative intervention is not indicated unless the patient has signs of peritonitis or an acute abdomen. Parenteral nutrition has significantly improved the prognosis

of patients with enterocutaneous fistula and has not only increased the rate of spontaneous fistula closure but also improved nutritional status of patients needing repeated operations.

Rovner ES: Urinary tract fistula, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 72, p 2322.

Question #108 ANSWER=D

This patient manifests the paraneoplastic syndrome of hypercalcemia. The hypercalcemia needs to be controlled promptly, and therapy should begin with hydration with isotonic sodium chloride. Hydration should result in an increase in calcium excretion and lowering of serum calcium levels to acceptable ranges. All other therapies are appropriate and effective if saline hydration is inadequate to return serum calcium to safe levels.

Pearle MS, Lotan Y: Urinary lithiasis: Etiology, epidemiology, and pathogenesis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 42, p 1376.

Question #109 ANSWER=D

Permanent lower urinary tract dysfunction occurs in 15-20% of patients following radical pelvic surgery. The typical pattern is one of detrusor areflexia or hypocontractility in the presence of fixed residual striated sphincter tone. This fixed tone represents a functional obstruction that frequently results in decreased detrusor compliance. Although poor proximal sphincter function can also occur (intrinsic sphincter deficiency), this is often masked by prostate bulk in male patients.

Wein AJ: Lower urinary tract dysfunction in neurologic injury and disease, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 59, p 2032.

Question #110 ANSWER=A

Kaposi's sarcoma is the 2nd most common malignancy of the penis after squamous cancer as a result of the prevalence of HIV infection. It also occurs in patients on immunosuppression for organ transplantation or other indications. In this setting, Kaposi's sarcoma often regresses with modification of the immunosuppressive regimen and this should be the initial approach. If the tumor fails to respond to these efforts, local excision or radiation should be considered. Partial penectomy is not indicated for this tumor type. 5- FU is typically utilized in squamous cell carcinoma of the penis.

Pettaway CA, Lynch DF Jr, Davis JW: Tumors of the penis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 31, p 959.

Question #111 ANSWER=D

During pheochromocytoma surgery catecholamines may be released into the circulation making the blood pressure difficult to control. Early ligation of the primary venous drainage, the left adrenal vein, may prevent the release of these vasoactive substances and allow the anesthetic management of the procedure to be simplified.

Vaughan ED Jr, Blumenfeld JD: Pathophysiology, evaluation, and medical management of adrenal disorders, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 53, p 1821.

Chow GK, Blute ML: Surgery of adrenal glands, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 54, p 1869.

Question #112 ANSWER=E

Reimplantation of the amputated phallus is usually successful even after two hours ischemia without ice. In fact, many organs may be damaged through frost injury if improperly stored in ice. The edges should be debrided and the corpora and urethra re-approximated without attempting reanastomosis of the cavernosal arteries. Microsurgical technique should be employed to re-anastomose the dorsal nerves, arteries and veins. Skin loss frequently occurs but it can be managed later with skin grafting.

Morey AF, Rozanski TA: Genital and lower urinary tract trauma, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 83, pp 2651-2652.

Question #113 ANSWER=D

The rate of clinical understaging in high-risk nonmuscle invasive bladder cancer is as high as 40% among those tumors with involvement of the lamina propria (clinical stage T1). Therefore, to reduce this staging error, the presence of uninvolved muscularis propria should be identified. While the presence of lymphovascular invasion, carcinoma in-situ and high grade tumors are all factors that place the patient at high risk for progression in stage, of the options listed only the absence of muscularis propria would necessitate an automatic restaging by repeat TUR. While muscularis mucosa has been suggested by some to be associated with risk of understaging and progression among T1 tumors, it is not identified in up to one half of

TUR specimens and therefore the failure to identify this layer does not justify an automatic repeat resection.

Guideline for the management of nonmuscle invasive bladder cancer: 2007 Update. www.auanet.org

Jones JS, Campbell SC: Non-muscle-invasive bladder cancer (Ta, T1, and CIS), in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 76, p 2452.

Question #114 ANSWER=D

The umbilical artery is the first visceral branch of the internal iliac artery and is very commonly a large trunk that in its proximal unobliterated section gives rise to the superior vesical artery as its first branch. The obliterated umbilical artery is an important landmark in the pelvis as it sweeps lateral to the ureter at the pelvic brim. It can be used to mark the peritoneum in pelvic dissections and may be confused with the vas deferens in the male.

Brooks JD: Anatomy of the lower urinary tract and male genitalia, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 2, p 43.

Question #115 ANSWER=C

In this clinical setting, the most likely diagnosis is chronic urinary infection secondary to a urethral diverticulum. Although many of these lesions can be demonstrated on a VCUG, pelvic MRI is being used with increasing frequency to confirm the diagnosis. Endoscopic examination under general anesthesia with good relaxation and simultaneous digital compression of the anterior vaginal wall may be necessary to satisfactorily demonstrate these lesions. In some cases, a retrograde urethrogram, utilizing the double balloon compression technique, is necessary to demonstrate the diverticulum. Cystogram does not image the urethra. Quantitative urine cultures, although positive in these cases, do not establish the diagnosis. Urodynamics are not indicated in patients with suspected local urethral disease unless there is clinical evidence of co-existent neurogenic disease.

Rovner ES: Bladder and urethral diverticula, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 73, p 2377.

Question #116 ANSWER=A

Recent studies on the outcome after radial nephrectomy for localized RCC have demonstrated that the risk of recurrence is stage dependent with the risk approximately 7%, 25%, and 40% for T1, T2, and T3 NO M0 patients respectively. The risk of recurrence is also greatest during

the first three years. Based on this data, evidence based recommendations for follow up have been published and surveillance should be tailored according to pathologic stage. For patients with stage 1 disease, routine follow up imaging is not necessary given the low risk of recurrence. In addition to yearly history, physical examination, and laboratory studies, a yearly CXR and a CT scan every two years is recommended for patients with Stage 2 disease. For patients with stage III disease, a history, exam, and CXR is recommended every six months for three years then yearly. In addition, a CT scan is recommended at year one and then every two years.

Campbell SC, Novick AD, Bukowski RM: Renal tumors, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 47, p 1610.

Question #117 ANSWER=B

The renal concentrating ability is not abolished in prerenal azotemia. Tubular function is also preserved, thus the urinary sodium concentration decreases. The intact tubular function in prerenal azotemia causes concentration of the urinary nitrogenous wastes. This leads to an elevated urine to plasma creatinine ratio, generally exceeding 40:1. Patients with acute renal failure would have increased fractional excretion of sodium and decreased urine osmolality. These patients frequently have an abnormal urinary sediment with renal tubular epithelial cells and tubular casts. If this patient had myoglobinuria, the dipstick would be positive although the urine would be negative for red cells. Low-dose dopamine is not appropriate in his hypovolemic state.

Goldfarb DA, Nally JV Jr, Schreiber MJ Jr: Etiology, pathogenesis, and management of renal failure, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 41, p 1326.

Question #118 ANSWER=E

Nephrogenic adenomas of the bladder are found usually in men and are associated with a prior history of bladder injury or chronic urinary tract infection. It is not associated with viral infection. Nephrogenic adenomas are not associated with cystitis cystica and associated only infrequently with bladder malignancies.

Messing EM: Urothelial tumors of the bladder, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 75, p2418.

Question #119 ANSWER=D

Sorafenib is an FDA approved oral medication for use in patients with metastatic renal cell carcinoma. The effects of sorafenib (BAY 43-9006), an oral multikinase inhibitor targeting the

tumor and vasculature, on tumor growth in patients with metastatic renal cell carcinoma was evaluated in a randomized Phase II trial. Patients with brain metastases were excluded from the study; however patients with prior immunotherapy were included. Patients initially received oral sorafenib 400 mg twice daily during the initial run-in period. After 12 weeks, patients with changes in bi-dimensional tumor measurements that were less than 25% from baseline were randomly assigned to sorafenib or placebo for an additional 12 weeks; patients with >/= 25% tumor shrinkage continued open-label sorafenib; patients with >/= 25% tumor growth discontinued treatment. The primary end point was the percentage of randomly assigned patients remaining progression free at 24 weeks after the initiation of sorafenib. Of 202 patients treated during the run-in period, 73 patients had tumor shrinkage of >/= 25%. Sixty-five patients with stable disease at 12 weeks were randomly assigned to sorafenib (n = 32) or placebo (n = 33). At 24 weeks, 50% of the sorafenib-treated patients were progression free versus 18% of the placebo-treated patients (P = .0077). Median progression-free survival (PFS) from randomization was significantly longer with sorafenib (24 weeks) than placebo (6 weeks; P = .0087). Median overall PFS was 29 weeks for the entire renal cell carcinoma population (n = 202). Thus, sorafenib has significant disease-stabilizing activity in metastatic renal cell carcinoma. There has been no data to suggest a survival advantage with sorafenib and it has not been used in the neoadjuvant setting. A recently published phase II randomized trial has shown similar results.

Ratain MJ, Eisen T, StadlerWM, et al: Phase II placebo-controlled randomized discontinuation trial of sorafenib in patients with metastatic renal cell carcinoma. J CLIN ONCOL 2006;95:581-586.

Campbell SC, Novick AD, Bukowski RM: Renal tumors, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 47, pp 1629-1631.

Question #120 ANSWER=D

The scenario is characteristic of a left multicystic kidney that is nearly always unilateral and is likely to involute. Hypertension can occur, but is rare. Autosomal dominant polycystic kidney disease is associated with aneurysms and recessive disease is associated with hepatic fibrosis.

Glassberg KI: Renal dysgenesis and cystic disease of the kidney, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 114, pp 3334-3339.

Question #121 ANSWER=A

Severe hemorrhagic cystitis, defined as requiring transfusion of more than six units of packed red blood cells to maintain hemodynamic stability and refractory to conservative measures, is life-threatening. Intravesical administration of silver nitrate or alum is unlikely to be effective following the failure of formalin. Hypogastric artery embolization has been utilized but complications including gluteal claudication and necrosis of the bladder have been reported.

Mesna is only effective when administered at the time of cyclophosphamide therapy since it binds to the active metabolite. Bilateral percutaneous nephrostomy tubes divert urine away from the bladder and facilitate application of more aggressive intravesical therapy.

Russo P: Urologic emergencies in the cancer patient. SEMIN ONCOL 2000;27:284-298.

Question #122 ANSWER=D

This patient has intermediate-risk clinically localized prostate cancer. According to the AUA guidelines for the management of clinically localized prostate cancer, as a standard, an assessment of the patient's life expectancy, overall health status, and tumor characteristics should be performed prior to making any treatment decisions. Life expectancy, not patient age, is a major factor to consider in treatment selection. When life expectancy is long, localized prostate cancer can be a cause of morbidity and mortality. On the other hand, when life expectancy is relatively short, competing causes for mortality reduce the chance that a man will experience disease progression or die from prostate cancer. Imaging studies including CT scan, bone scan, and Prostascint® scans are generally not indicated in the pretreatment evaluation of patients with clinically localized disease. This is especially true in patients with low and intermediate risk disease because the yield is so low to preclude their usefulness. Urodynamics are not indicated.

Guidelines for the management of clinically localized prostate cancer: 2007 Update. www.auanet.org

Question #123 ANSWER=C

Three percent of girls with inguinal hernias have testicular feminization. A testicle is found in the hernia sac and a chromosome analysis will reveal a 46XY karyotype. They should be raised as females and will require a gonadectomy. XO/XY chromosomal patterns are accompanied by a streak gonad most commonly. Elevated 17-hydroxyprogesterone is seen with CAH. Low testosterone with elevated LH and FSH occurs with abnormal testosterone production.

Diamond DA: Sexual differentiation: Normal and abnormal, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 128, p 3823.

Question #124 ANSWER=D

The management of ureteral obstruction in association with inflammatory abdominal aortic aneurysms is controversial. Peri-aneurysmal fibrosis has been reported to subside in some cases after aneurysm repair and there have been some who have recommended steroid treatment for this condition. Since the right kidney is functioning normally and there is a long ureteral stricture, left nephrectomy should be strongly considered. Ureterolysis concomitantly

with aneurysm repair would likely to require an ileal ureter or autotransplantation which would be ill-advised in this setting.

Hsu THS, Streem SB, Nakada SY: Management of upper urinary tract obstruction, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 38, pp 1270-1273.

Hafez KS, Wolf JS Jr: Update on minimally invasive management of ureteral strictures. J ENDOUROL 2003;17:453-464.

Question #125 ANSWER=E

According to the AUA guidelines for the management of clinically localized prostate cancer: 2007 Update, as a standard, patient preferences and functional status with special consideration given to functional outcomes including sexual, urinary, and bowel function should be considered in decision making. Radical prostatectomy, external beam radiation, interstitial radiation, and surveillance are appropriate treatment options with outcome data not providing clear-cut evidence for the superiority of any one treatment. There are trade-offs that must be considered when selecting a treatment for localized prostate cancer and each patient needs to determine based on their preferences which side effect profile is most acceptable to them when making a decision about treatment. The other options listed including prostate volume, PSA velocity, and AUA Symptom Score, may influence treatment decisions but are secondary to patient preference. Bone scan is not indicated in this patient.

Guidelines for the management of clinically localized prostate cancer: 2007 Update, pp 27-28. www.auanet.org

Question #126 ANSWER=B

The venous return from the penis is from the cavernous veins and the deep and superficial dorsal veins. The deep dorsal vein drains the glans penis as well as a major portion of the cavernous spaces of the corpus cavernosum. The vein lies beneath Buck's fascia and proceeds between the suspensory ligament of the penis to enter the urogenital diaphragm between the arcuate and transversus pubic ligament. It empties into the preprostatic plexis.

Brooks JD: Anatomy of the lower urinary tract and male genitalia, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 2, p 70.

Question #127 ANSWER=D

In the United States, transmission of HIV by blood transfusion occurs almost exclusively when a recently infected blood donor is infectious but before antibodies to HIV become detectable during the window period. Based on the latest information estimating the risk of HIV

transmission, it was estimated that there was a risk of 1 case of HIV transmission for every 2 million donations of screened blood. Surgeons should be aware of this statistic as their patients do ask this important question.

Alter HJ, Stramer SL, Dodd RY: Emerging infectious diseases that threaten the blood supply. SEMIN HEMATOL 2007;44:32-41.

Question #128 ANSWER=D

T1 tumors with aggressive features (tumor size > 3 cm, micropapillary histology, and lymphovascular invasion) have an increased risk of progression and should undergo definitive cystectomy that is highly effective for early stage tumors. While intravesical BCG is an option for the treatment of T1 bladder cancer, the high risk features of this tumor leave the patient at a very high risk of relapse and progression. This is inappropriate given his young age and excellent health. Partial cystectomy is not the best choice for tumor control given the high risk of multifocal recurrences within the remaining bladder. Prophylactic radiotherapy and systemic chemotherapy have not been shown to reduce the risk of recurrence in individuals with T1 disease.

Hautmann RE, Gschwend JE, de Petriconi RC, Kron M, Volkmer BG: Cystectomy for transitional cell carcinoma of the bladder: Results of a surgery only series in the neobladder era. J UROL 2006; 176:486^92.

Millan-Rodriguez F, Chechile-Toniolo G, Salvador-Bayarri J, Palou J, Vicente-Rodriguez J: Multivariate analysis of the prognostic factors of primary superficial bladder cancer. J UROL 2000;163:73-78.

Question #129 ANSWER=E

Renal cortical scintigraphy is the most sensitive method of detecting renal scarring. Tc DTPA is commonly used for assessment of renal function but the majority is filtered at the glomerulus and cleared so rapidly that it is not suitable for this purpose. Tc glucoheptonate clears by both tubular secretion and glomerular filtration. About 6% of the dose is retained in the renal cortex by three to four hours after injection. Tc DMSA has much better renal concentration with 30% of activity concentrated in each kidney at six hours after injection. MAG-3 is another renal tubular agent but has much lower tubular secretion. MIBG is used for imaging of the adrenal glands.

Shortliffe LMD: Infection and inflammation of the pediatric genitourinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 112, p 3255.

Question #130 ANSWER=D

Recurrent infections and flank pain associated with a complete staghorn calculus in a young Jehovah's Witness patient requires extensive discussions of treatment options and potential outcomes. Chronic antibiotics will not eradicate the UTI. Complications include pyonephrosis, urosepsis, fistula and severe pain. SWL, although appearing benign, can result in steinstrasse, persistent hydronephrosis, pyonephrosis and may ultimately require multiple interventions. Acetohydroxamic acid is associated with numerous side effects and will not be a permanent solution. An anatrophic nephrolithotomy may result in substantial blood loss and may not render the patient stone free. Percutaneous nephrolithotomy can be performed safely. Patients need to be informed of the small risk of blood loss.

Dasen KR, Niswander DG, Schlenker RE: Autologous and allogenic blood products for unanticipated massive blood loss in a Jehovah's Witness. ANESTH ANALG 2000;90:553-555.

Preminger GM, Assimos DG, Lingeman JE, Nakada SY, Pearle MS, Wolf JS Jr: AUA Nephrolithiasis Guideline Panel: Chapter 1: AUA guideline on management of staghorn calculi: diagnosis and treatment recommendations. J UROL 2005;173:1991-2000.

Question #131 ANSWER=A

A basic understanding of ultrasound physics is important for optimal diagnostic imaging using this modality. Ultrasonography uses high-frequency sound waves to image anatomic structures. The sound waves as a result of their interaction with tissue are either reflected, refracted, or absorbed. Air reflects sound waves completely; bone absorbs them completely. In diagnostic imaging of the GU system, frequencies between 1 and 10 MHz are typically used. Sound waves have a wave-length between these frequencies of 1.5 to .15 mm which sets a fundamental limit on the potential spatial resolution of the image. Many current ultrasound probes have variable frequency transducers allowing the operator to adjust the frequency in order to optimize imaging characteristics. Increasing the frequency (MHz) increases spatial resolution. However, as the frequency is increased, the depth of penetration decreases as a result of attenuation of ultrasound. Optimum imaging is thus obtained by choosing the highest frequency that will permit adequate penetration to identify the region of interest.

Ramey JR, Halpern EJ, Gomella LG: Ultrasonography and biopsy of the prostate, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 92, p 2885.

Question #132 ANSWER=B

A testis biopsy is not required to establish the diagnosis of spermatogenic dysfunction, as the likelihood of non-obstructive azoospermia in a man with testis longitudinal axis less than 4.6 cm and FSH greater than 7.6 IU/l is 89%. In a recent multicenter trial, over 60% of men with non-obstructive azoospermia demonstrated sperm in their semen analyses after clomiphene citrate administered with mean duration five months. The clomiphene dose should be titrated

to increase the serum testosterone levels to 600-800 ng/dl. A third semen analysis is unlikely to aid in the diagnosis, and with LH and FSH levels in the normal range, exogenous hCG and recombinant FSH are unhelpful. Microsurgical reconstruction will not result in ejaculated sperm because non-obstructive azoospermia is caused by impaired spermatogenesis.

Hussein A, Ozgok Y, Ross L, Niederberger C: Clomiphene administration for cases of nonobstructive azoospermia: a multicenter study. J ANDROL 2005;26:787-791.

Schoor RA, Elhanbly S, Niederberger CS, Ross LS: The role of testicular biopsy in the modern management of male infertility. J UROL 2002;167:197-200.

Question #133 ANSWER=B

Bacterial vaginosis results from an alteration of normal vaginal flora with a predominance of Lactobacillus species and high concentrations of anaerobic bacteria. Diagnosis can be confirmed with identification of clue cells, a homogenous vaginal discharge, a vaginal pH > 4.5, and a malodorous fishy vaginal discharge. It is more prevalent in lesbians. Risk factors may include multiple sexual partners, a new sexual partner, use of an intrauterine device, and douching. Treating the patient is as effective as treating the patient and partner. Symptoms may recur in 1/3 of patients after treatment. Metronidazole is the treatment of choice.

Colli E, Landoni M, Parazzini F: Treatment of male partners and recurrence of bacterial vaginosis: A randomized trial. GENITOURIN MED 1997;73:267-270.

Frenkl T, Potts J: Sexually transmitted diseases, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 11, p384.

Question #134 ANSWER=D

Isolated nocturnal incontinence is sometimes noted in patients who have undergone radical cystectomy and orthotopic neobladder. This is thought to be related to loss of afferent input from the detrusor to the central nervous system. Normally the afferent input causes a reflex rise in urethral pressure during reservoir filling. This reflex is maintained following radical prostatectomy, which explains why isolated nocturnal incontinence is uncommon after this procedure. If there was damage to the rhabdosphincter, the patient would experience incontinence during the day and night, as opposed to isolated nocturnal incontinence. This would also be the case if the neobladder had poor compliance or had contractions. While some authors have suggested that damage to the pelvic and hypogastric plexus contributes to incontinence after cystectomy, this also would not cause isolated nighttime incontinence.

Stein JP, Skinner DG: Orthotopic urinary diversion, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 3, chap 82, p 2613.

Question #135 ANSWER=B

| he most likely etiology of her new symptomatic UTIs is a change in the bacterial strain resident in her bladder. This is often due to misdirected efforts to eradicate her asymptomatic bacteruria with antibiotics thus leading to a more virulent bacteria strain. The risk for development of pyelonephritis in a girl over four years of age with untreated asymptomatic bacteruria is small and seems to be associated with a change in bacterial strain.

Shortliffe LMD: Infection and inflammation of the pediatric genitourinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 112, pp 3262-3263.

Question #136 ANSWER=B

Anuria always implies complete ureteral obstruction until proven otherwise. The two most likely areas where the ureter can be occluded during hysterectomy are at the level of the broad ligaments and at the vaginal cuff and bladder trigone. Consequently, the most likely finding in this patient would be a ureteral obstruction at the level of the vaginal cuff. While hypovolemic shock and low urine outputs are commonly seen after all types of abdominal operations, the anuria in this case suggests an obstructive etiology. Acute tubular necrosis does not normally occur in a precipitous fashion as in this case. A vesicovaginal fistula should be obvious clinically.

McAninch W, Santucci RA: Renal and ureteral trauma, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 39, pp 1288-1289.

Question #137 ANSWER=B

Multiple series have documented the safety and efficacy of endoscopic management of upper tract TCC. This elderly patient has significant comorbidities and a low grade distal ureteral TCC. Low grade tumors at ureteroscopic biopsy have a strong correlation with noninvasive stage at the time of nephroureterectomy. Similarly, high grade disease identified on ureteroscopic biopsy is very likely to represent invasive disease at the time of final pathologic staging. While optimal therapy for a low grade ureteral tumor in a younger, healthier patient would be distal ureterectomy and reimplantation, this patient would be well-served with endoscopic management. Although upper tract tumors can be ablated with electrocautery delivered through a small Bugbee electrode, the variable depth of penetration and risk of stricture formation have made the use of laser energy for ablation more popular. Follow-up of the patient should include endoscopic evaluation (ureteroscopy) on a periodic basis.

Sagalowsky AI, Jarrett TW: Management of urothelial tumors of the renal pelvis and ureter, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 49, pp 1672-1677.

Question #138 ANSWER=D

The incidence of nosocomial fungal urinary tract infections is increasing. Candida is the most common offending organism. Aggressive treatment is required due to a high incidence of subsequent candidemia that has been reported to occur in 25-85% of neonates with candiduria. Isolating treatment to the bladder with topical irrigation will not effectively treat the upper tract. Parenteral treatment is required. Fluconazole is the treatment of choice in a premature infant when compared to amphotericin because of significantly diminished side effects.

McAleer SJ, Johnson CW, Johnson WD Jr: Tuberculosis and parasitic and fungal infections of the genitourinary system, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 14, pp 459-470.

Shortliffe LMD: Infection and inflammation of the pediatric genitourinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 112, p 3265.

Question #139 ANSWER=D

The incidence of prostatic abscess has declined but is still seen in immunodeficient patients such as those with HIV. TRUS is now the imaging modality of choice for the evaluation of patients with suspected prostatic abscess. Antibiotic therapy alone will not be sufficient if an abscess is found. Suprapubic urinary diversion is appropriate in patients with acute bacterial prostatitis without an abscess. Transurethral unroofing is the treatment of choice in patients with an abscess confined to the prostate gland while open drainage is required for patients with more extensive lesions. Transrectal drainage can be used as an alternative when transurethral drainage fails.

Trauzzi SJ, Kay CJ, Kaufman DG, Lowe FC: Management of prostatic abscess in patients with immunodeficiency syndrome. UROL 1994;43:629-633.

Nickel JC: Inflammatory conditions of the male genitourinary tract: Prostatitis and related conditions, orchitis, and epididymitis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 9, p 325.

Question #140 ANSWER=C

In the patient with an initial presentation of a solitary, low grade noninvasive TCC, the only adjuvant therapy to be considered is an immediate postoperative instillation of intravesical chemotherapy. In the metaanalysis reported in the 2007 update of the AUA guideline for the

management of nonmuscle invasive bladder cancer, a single perioperative dose of mitomycin C resulted in a 17% reduction (95% CI: 8,28) in recurrences compared to TURBT alone. The panel found no evidence that multiple adjuvant instillations of either BCG or chemotherapy have additional benefit in patients at initial diagnosis of Ta grade 1 bladder cancer.

Guideline for the management of nonmuscle invasive bladder cancer: 2007 Update. www.auanet.org

Question #141 ANSWER=A

This small volume, high pressure bladder may be even worse than urodynamics show, as the bladder volume and pressures are lowered by venting from VUR. The upper tracts are at great risk. Vesicostomy provides immediate and complete relief from high pressures with less subsequent reconstructive trouble than cutaneous pyelostomy. Augmentation of the bladder would be premature at this stage as it increases the complexity of care and starts a clock related to the known and unknown complications of enteric substitution. Even if eventually necessary, augmentation cystoplasty could be safely delayed for several years. Antimuscarinics alone will not benefit this patient. Urethral dilation is of short-term benefit for most patients.

Yeung CK, Sihoe JD, Bauer SB: Voiding dysfunction in children: Non-neurogenic and neurogenic, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 123, pp 3633-3634.

Question #142 ANSWER=E

Among pregnant women with a calculus, one-half to two-thirds will pass their stone spontaneously. The average size of a passed calculus is 6 mm (2-11 mm). Among the remaining patients, over 80% will likely be in their third trimester; in this group, placement of an indwelling stent is the most generally accepted next step. The stent can be placed under ultrasonic or fluoroscopic control. If fluoroscopy is used, the fetus should be shielded; however at this time, chances of any adverse developmental effect of radiation to the fetus are low. It is recommended that the stent be changed every 4-8 weeks, although some urologists have reported stent indwell times for the duration of the last trimester with successful retrieval of the encrusted stent. The use of a percutaneous nephrostomy in the third trimester is less acceptable due to the discomfort to the patient, invariable bacterial colonization of the urine, and the frequent problems of encrustation and blockage of the nephrostomy tube necessitating emergency changing of the tube approximately once a month. In this patient, hydration and observation are not reasonable. Spontaneous passage is unlikely given the size of the stone. A surgical procedure also is not indicated, as the goal of therapy is to relieve the stone-induced obstruction. After the patient delivers her child, the stone can be treated with SWL, a less morbid treatment than a percutaneous or ureteroscopic procedure.

McAleer SJ, Loughlin KR: Nephrolithiasis and pregnancy. CURR OPIN UROL 2004;14:123-127.

Question #143 ANSWER=A

Patients with AIDS are at risk for various genitourinary infections and initial treatment of this patient with antibiotics is appropriate. In this patient, the initial clinical response does suggest the possibility of an underlying infection at initial presentation, but could also reflect spontaneous resolution of peri-tumoral inflammation from hemorrhage within a tumor. Patients with AIDS may be at greater risk for testicular tumors and the presence of an intraparenchymal testicular mass merits inguinal orchiectomy. Scrotal exploration would likely be non-informative, and intraoperative biopsy is only warranted in cases of solitary testis or those cases in which the surgeon has a very low suspicion of tumor. Transscrotal biopsy or aspiration is not advisable if malignancy is suspected.

Richie JP, Steele GS: Neoplasms of the testis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 29, p 903.

Krieger JN: Urologic implications of AIDS and HIV infection, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 12, pp 399-400.

Question #144 ANSWER=C

The response of renovascular hypertension to surgery or angiographic intervention depends upon the type of lesion and its location. Renin is a mediating substance for renovascular hypertension and a search for its origin in helpful. Significantly elevated renin from one renal vein and not the other leads to localization of a candidate for intervention. Further evaluation by imaging and provocative studies involving ACE inhibitors may also confirm the diagnosis and help decide whether surgical treatment is necessary.

Novick AC, Fergany A: Renovascular hypertension and ischemic nephropathy, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 36, p 1156.

Question #145 ANSWER=A

The syndrome of inappropriate ADH secretion (SIADH) may be associated with malignancy, pulmonary and CNS disorders, and certain drugs. Hyponatremia, decreased serum osmolarity (< 285 mOsm/l) with inappropriately increased urine osmolarity (> 300 mOsm/l), normal adrenal and thyroid function and urine sodium in excess of 20 mEq/l characterize the process. A diagnosis of SIADH can only be made if a patient is euvolemic (as in the present case), as increased ADH secretion is physiologic in hypovolemic states. Adrenal insufficiency would result in increased serum potassium. Dehydration would result in mild hypernatremia and a higher urine osmolarity. There is no reason, in the present case, to consider water intoxication given the administration of only 2000 ml of I.V. fluid daily.

Shoskes DA, McMahon AW: Renal physiology and pathophysiology, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 35, pp 1137-1138.

Question #146 ANSWER=C

This patient has an abdominal relapse after observation. Correct management is 3 cycles of BEP (bleomycin, etoposide, cisplatin) for disseminated germ cell tumor in good risk patients. Biopsy of the mass could miss elements of residual cancer and should not be performed. Although the original tumor showed elements of seminoma, radiation would not be the preferred treatment for masses > 3 cm. Retroperitoneal lymphadenectomy is usually not performed prior to chemotherapy for masses > 3 cm on CT scan, avoiding double therapy in these patients.

Richie JP, Steele GS: Neoplasms of the testis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 29, p 920.

Question #147 ANSWER=D

The most common urologic complication of inflammatory bowel disease is cystitis. This can happen with or without an enteric-urinary fistula. Management should be directed at the inflammatory bowel disease and should be non-surgical if at all possible. Surgical procedures such as diverting colostomy, suprapubic tube or bowel resection are inappropriate as initial management. Intravenous antibiotics will not be any more effective than oral antibiotics.

Hanno PM: Painful bladder syndrome/Interstitial cystitis and related disorders, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 10, p 336.

Question #148 ANSWER=D

Intravascular fluid absorption can occur with ureteroscopy and percutaneous nephroscopy. This may be massive during percutaneous nephrostolithotomy if a closed irrigation and drainage system is used. Normal saline is both isotonic and non-conductive whereas the other listed fluids do not share both of these properties. There is no advantage using a solution other than normal saline during these procedures unless intrarenal electrosurgery is being performed. Only in this situation is it necessary to change to using glycine or sorbitol as the irrigant.

Gupta M, Ost MC, Shah JB, McDougall EM, Smith AD: Percutaneous management of the upper urinary tract, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds):

CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 2, chap 46, p 1547.

Question #149 ANSWER=C

Luteinizing hormone and human chorionic gonadotropin have extensive structural homology. Both share a common alpha-subunit and the beta-subunits are 80% homologous. A number of commercially available radio immunoassay kits for beta-hCG will cross react with elevated levels of LH. Elevated LH concentrations may result after orchiectomy if there is inadequate testosterone production from the contralateral testis, thereby producing a spuriously positive elevation of the hCG. This becomes clinically relevant in determining whether individuals with elevated serum beta-hCG require chemotherapy following inguinal orchiectomy for testis cancer. If low testosterone, and secondarily increased LH, is suspected, then administration of exogenous testosterone may normalize the beta-hCG level.

Richie JP, Steele GS: Neoplasms of the testis, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 1, chap 29, p 906.

Question #150 ANSWER=C

A screening ultrasound of the parents will confirm the diagnosis of a autosomal dominant polycystic disease which is an important cause of renal failure and accounts for 10% of the patients in the United States on chronic hemodialysis. The lesion is an autosomal dominant condition, therefore, 50% of the children of the affected adult will be similarly affected.

Glassberg KI: Renal dysgenesis and cystic disease of the kidney, in Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA (eds): CAMPBELL'S UROLOGY, ed 9. Philadelphia, Saunders Elsevier, 2007, vol 4, chap 114, p 3325.